PARAMETERS

US ARMY WAR COLLEGE QUARTERLY

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Book Reviews

Frederic J. Brown on Martin Binkin's *Who Will Fight the Next War?*
Russell Weigley on Stephen Ambrose's *D-Day June 6, 1944*
Dave R. Palmer, Douglas Pike, and more

Review Essay

Strategic Reading on Latin America, by Russell W. Ramsey

"NOT TO PROMOTE WAR, BUT TO PRESERVE PEACE"

US ARMY WAR COLLEGE

PARAMETERS
The US Army's Senior Professional Journal

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Parameters is a journal of ideas and issues, providing a forum for the expression of mature professional thought on the art and science of land warfare, joint and combined matters, national and international security affairs, military strategy, military leadership and management, military history, military ethics, and other topics of significant and current interest to the US Army and the Department of Defense. It serves as a vehicle for continuing the education, and thus the professional development, of War College graduates and other military officers and civilians concerned with military affairs.

From the Editor

In This Issue . . .

Carl H. Builder and James A. Dewar examine the concept of DOD planning from two perspectives: as practiced during the Cold War, and as we might redefine it after considering several theories of planning. Their conclusions are enlightening, ending on an unexpected note: the services need to be cautious about losing their identities in the ferment over jointness.

Ralph Peters analyzes what he calls the warrior class, challenging the notion that the word "warrior" adds allure to the self-image and professional status of soldiers. An analyst of emerging threats who travels extensively, he examines what he has seen in the regions where warriors flourish. One of his conclusions—that we need to systematically collect and analyze data on warrior groups and their leaders—can be borne out by experiences in Somalia and other places where soldiers confront irregular forces.

In the lead article of a feature on the defense industrial base, Mike Austin looks at the strategic implications of the defense drawdown on industry's ability to support a crisis. He describes the challenges and opportunities that await those who must consider the needs of the military as American industry adapts to the downsizing of the services. He then applies the emerging concepts of "agile" industrial methods to emergency preparedness tasks, demonstrating how traditional missions ought to be managed in a technology-rich environment.

John R. Brinkerhoff profiles national mobilization considerations and requirements. He analyzes the support required by the services when committed to carry out national policy, and he proposes a concept for adapting interagency management of preparedness to the realities of the new national security environment. His conclusions complement many of the concepts advanced in James Blackwell's forecast of new forms of national security preparedness.

James S. Thomason reports on the continuing efforts of several federal departments and agencies to gain insights into the sustainability of strategic options. His research, like that of others participating in a long-term FEMA project, illustrates the nature and duration of industry's involvement in supporting major regional conflicts, particularly as the military services recover from one (or two) of them.

Ivars Gutmanis assesses DOD procurement policies as the defense technology industrial base downsizes. After summarizing and analyzing four sets of alternatives for defense procurement presently being considered by Congress and the Administration, he examines the realities of corporate behavior. While others debate policy options for adapting defense production to post-Cold War realities, industry is dealing pragmatically with the issues in their daily effort to continue as "going concerns."

James A. Blackwell, Jr., looks at the future of national emergency preparedness planning and operations. He suggests that emerging technologies, new definitions of mobilization functions, and the concept of the "virtual organization" can enhance interagency management of national security preparedness issues. What emerges from this article and from John Brinkerhoff's discussion of mobilization is a concept for national security emergency preparedness that takes advantage of new

technologies in adjusting to the realities of post-Cold War policy development and contingency planning.

Steven Metz creates theoretical worlds—unipolar, bipolar, and multipolar—and then examines the implications of each configuration for strategists. The prospective roles he identifies for the Army in the models (and by implication, for the other services) could challenge assumptions about national security strategy and associated planning and policy options.

Jeffrey E. Stambaugh looks at a contentious aspect of joint doctrine, the purpose and functions of the joint force air component commander. He analyzes the origins, purposes, effectiveness, and prospects of that function from the perspectives of history, emerging Air Force and joint doctrine, and the experience of the 1990-91 Gulf War, where the concept received its baptism of fire.

Commentary and Reply highlights F. M. Lorenz and Martin Glanzglass on UNITAF operations in Somalia, and Kalev I. Sepp and Victor M. Rosello, who exchange views on the Army's experience in El Salvador.

Keeping Up With New Books . . .

This issue introduces what is planned as a recurring feature, ***Review Essays*** by subject matter experts on topics, places, events, and other matters of current or historical interest. If the concept matures as anticipated, several review essays will appear in each issue. The first essay examines "Strategic Readings on Latin America."

Book Reviews include Rick Brown on Martin Binkin's *Who Will Fight the Next War*; Russell Weigley on Stephen Ambrose's upcoming *D-Day June 6, 1944*, and Dave Palmer's appreciation of George Pappas's *To the Point*.

The third form of information on books of current interest, ***Off the Press***, will continue to list newly published books.

Address Changes . . .

Following the publication of each issue, the Postal Service returns to the *Parameters* office dozens of copies lacking up-to-date addresses. If you have lost contact with us but believe that you should still be receiving the journal—still on active duty or other entitlement—please provide your current address by mail or by phone (717-245-4943). Leave a message on the answering machine if you call other than between 0800 and 1700 EST.

Review of Distribution Database . . .

This summer we will begin a review of the distribution database to remove those who are no longer eligible to receive the journal. We must do so as a matter of routine management. Graduates of the USAWC generally are eligible to receive the journal at no charge only until they retire. If you have retired and are still receiving the journal gratis, we will likely remove your name from the list of recipients. We will keep readers informed as this work progresses. In the meantime, if you think you may be among those who will lose eligibility, please take advantage of the form at the end of this issue to continue your subscription for a modest fee through the Superintendent of Documents; that office presently has about 1100 *Parameters* subscribers on its rolls. Subscription forms will be available in each of the next several issues. — JJM ❑

A Time for Planning? If Not Now, When?

CARL H. BUILDER and JAMES A. DEWAR[1]

As they do about the weather, perhaps, everyone complains about planning, but no one does anything about it. There is nothing new about lamenting either the quantity or quality of planning in American military institutions. The commercial sector, because of rapidly changing markets, has rediscovered "strategic" planning; and, in the aftermath of the Cold War, the American military shows some interest in "going to school" on corporate planning processes. Books[2] and articles[3] explaining the value of institutional planning and how to do it have become popular reading in both the military and commercial sectors.

As much as one might agree with the need for more and better planning in American military institutions, there is still a need to explain why we have seen so little evidence of planning for so long and why planning has been so difficult to do. Within the national security establishment, for the past 30 years, the formal planning process has been incorporated in the Planning, Programming, and Budgeting System (PPBS).[4] That is the frame of reference adopted here for explaining what went wrong, and why, with American military planning.

It has been wryly observed that the first P (for planning) in PPBS was silent—a remark upon the absence of planning.[5] The system seemed to be much more about programming and budgeting than it was about planning. Many of the expressed concerns about the quantity and quality of military planning center on strategic or long-range planning. Perry Smith, an experienced military planner, puts it this way:

> What is missing within these [PPBS] planning structures, however, is any serious effort at strategic (long-range) planning within either the Office of the Secretary of Defense or the Joint Staff. There is some lip service paid to strategic planning in OSD and the Joint Staff, there is a long-range planning annex in the National Military Strategy Document (NMSD), and there are some individuals who honestly think some useful systematic long-range planning is going on within these two organizations; but they are wrong (at least through 1993).[6]

That indictment is about as direct as one is likely to see. Smith extends it to the military services as well:

> The military services do some strategic planning, but their efforts at long-range planning have not been well institutionalized. The services are also limited in how well they can do long-range planning with OSD and the Joint Staff doing so little. With no overarching Department of Defense long-range plan or long-range planning system, the services tend to plan in isolation.[7]

An alternative view, developed here, is that defense planning atrophied under PPBS because the planning was substantially completed early in the Cold War; and, thereafter, programming largely supplanted planning in the making of plans. Institutionalizing planning would not have helped when the very functions of planning became trapped in the glacial thinking of the Cold War.[8]

If the need for planning is compelling, exhortations to do more or better planning may not be enough. It may be necessary, first, to understand just why it is that planning has been neglected in the past. The thesis advanced here is that planning was neglected because the stasis of the Cold War resolved most of the uncertainties that are properly the central occupation of planning; and since planning was thus made relatively easy, planners confused planning with programming and making plans.

To program or to plan?

The definitions are not helpful: Planning and programming can be confusing, even in the dictionary sense.[9] The confusion between planning and programming is compounded because both (as well as other activities) can produce plans. Plans can be produced by programming (program plans), commander's conferences or battle staffs (operational plans), engineers (construction plans), draftsmen (house plans), insurance salesmen (financial and retirement plans), and, of course, by planners and planning staffs.

Planning need not produce plans to be successful; to be successful, planning must inform and facilitate the decision for which the planning was undertaken. Planning can be successful if it results in a decision not to act and in the absence of any plans. The product of planning is a better informed decision to act or not, with or without plans.

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Dr. James A. Dewar is a senior analyst at RAND and principal author of the report on *Assumption-Based Planning* (RAND, MR-114-A, 1993). He was trained as a mathematician at Harvey Mudd College and the University of Southern California. He has been working military planning issues for the last 14 years.

In PPBS, it can be argued that the proper product of the planning phase is not plans, but the decisions as to what ought to be programmed and then budgeted. The product of the programming process *is* plans—program plans. Since the PPBS process is complex, it may be easier to see the distinctions between planning and programming in a more familiar example of the two at work in residential home construction.

When the architect plans a new home with its prospective owners, there is a wide-ranging consideration of goals and constraints, of alternatives and priorities, of risks and uncertainties. Sites, interest rates, financing, style preferences, materials availability, building restrictions, all sorts of issues and considerations must be addressed and resolved in some concept of action: whether or not to proceed and, if to proceed, what kind of building ought to be constructed and where. At this point of decision, there may only be sketches and renderings and very rough estimates of cost. That is planning; and its purpose is to facilitate the decision as to what, if anything, should be programmed.

If the decision is to proceed, then the programming begins. A practicable program must be fashioned to meet the intent of the planning decision. House plans must be drawn that will conform to code and be approved. A bill of materials must be drawn up and priced. Contractors' bids or estimates must be acquired and their work must be scheduled. At this point, the home exists only on paper as a completed design or plan for those who would execute the construction program. That is programming; and its purpose is to design a feasible, executable program that conforms to the planning decision. What follows programming, if anything, is budgeting (or financing) and execution (construction).

Seen in this example, the planning phase was about *what*, if anything, ought to be built, while the programming phase was about *how* to build it. That is the most basic distinction to make between planning and programming: planning produces *a determination of what to program* and programming produces *a design for how to program* (resource and schedule) it.

Distinguished in that way, the challenges of planning and programming are quite different: The challenge of planning is to wrestle the *decision* uncertainties (e.g., the variables, alternatives, preferences) to the ground in a way and to a degree that facilitates the decision about what ought to be programmed. The challenge of programming, then, is to devise a program that effectively resolves the *design* uncertainties (e.g., schedules, quantities, allocations) about how to proceed.

Those two challenges differ fundamentally in their approaches to uncertainty: Planning does a good job if it searches out and tables all of the pertinent uncertainties bearing upon the decision about what to program and then finds a way of accommodating them. Good planning effectively deals with *decision* uncertainties, many of which cannot be resolved. Good programming

addresses all *design* uncertainties, most of which can be resolved by careful design and attention to details.

These differences in the handling of uncertainties suggest sharp philosophical distinctions between planning and programming: On the planning side, the focus is on a decision; on the programming side, it is on a design. Planning is mostly about ends; programming is mostly about means to those ends. One side deals with *decision* uncertainties, the other with *design* uncertainties. But there is also an attitudinal difference between the two about uncertainty: Planning attempts to embrace and contemplate its decision uncertainties. Programming attempts to drive out and resolve its design uncertainties.[10]

Conceptually, the planning and programming functions are sequential. In practice, the hand-off between the two is neither clean nor one-way, and the functions are highly interactive.[11] Often, planning decisions are revisited during programming as cost estimates are revised and political realities change. It is not uncommon for the Congress to modify an Administration budget request in ways that require the Executive Branch to replan and reprogram. Indeed, the acts of authorizing and appropriating represent the principal ways the Congress injects its planning ideas into the fruits of Executive Branch planning, programming, and budgeting.

Was planning a Cold War victim?

In retrospect, the historical dominance of programming over planning in American national security institutions appears to be an artifact of the stability of the Cold War. The *planning* for that war was largely completed in its first decade in the *vision* of containment[12] and the *strategy* of deterrence.[13] Thereafter, the major challenge was one of programming relatively stable resources to stable national security objectives in the face of slowly evolving technology. If planning is mostly about wrestling the outstanding uncertainties to the ground, the Cold War left military planners with precious little with which to wrestle:

- The enemy was not uncertain; it was the communist bloc, led by the Soviet Union.
- The threat was not ambiguous; it was the very survival of the nation under the shadow of a massive nuclear attack.
- The resources were not highly uncertain; the threat was so dire that the necessary funds would be provided regardless of other claims and claimants.[14]
- The locus of conflict was clear enough; it was Central Europe, where the prize of two world wars was left divided between the Cold War adversaries.
- The scenario was so consistent as to be called canonical; it was a Warsaw Pact invasion of Western Europe, escalating to the use of nuclear weapons, first in Europe and then in the heartlands of the two superpowers.

"The product of planning is a better informed decision to act or not, with or without plans."

About the only uncertainty left for the planners was the question of what technology might provide to each side in the way of new weapons. Even there, however, the major technological changes came early in the Cold War with the perfection of jet aircraft, thermonuclear weapons, ballistic missiles, spacecraft, and nuclear propulsion for submarines—all in the 1950s. Thereafter, most of the changes in technology resulted in refinements on these breakthrough weapons developments.[15]

So the Cold War planners directed most of their planning efforts to the technological uncertainties. Those uncertainties became the *planning* preoccupation of the Cold War, with the result that much of the *programming* was devoted to the development of new, more technologically advanced weapon systems. The planning decision became mostly one of deciding which new weapons ought to be programmed for development.

With the end of the Cold War, the planning uncertainties appear to have been turned on their heads:

- The enemy is no longer certain; it may be "tin-pot" dictators or the reemergence of old enemies from past wars, hot and cold.
- The threat to the nation is ambiguous; it may be oil as "life blood" or regional conflicts that could spread to involve old allies or enemies, but it is no longer the very survival of the nation.
- The resources for national security are highly uncertain; the demands of other claims and claimants for the federal budget, long deferred by the Cold War, are legion and strident.
- The locus of conflict, particularly for small wars or peacemaking operations, is no longer clear; it could be almost anywhere and everywhere in the world.
- The scenarios remain to be determined; the Persian Gulf remains popular because of its oil and the militarily successful conflict waged there.[16]

Planning, anyone?

With all these uncertainties unleashed after nearly 40 years of Cold War stasis, the time for planning should surely be at hand. Or has programming become so ingrained that national security in the post-Cold War era will be programmed rather than planned? That possibility is evident in the seemingly

urgent efforts to articulate a new basis for military planning. It is as if the planning uncertainties should be resolved as quickly and permanently as possible, so that the defense establishment can get back to doing what it does well—programming.

There are clues to what is going on: Are our national security institutions behaving as if they already know what forces ought to be programmed? If so, they imply that the planning is done, that the planning uncertainties have been eliminated. The so-called Base Force, the first force structure proposed in the post-Cold War era, was presented as *what ought to be programmed.* It was defined in terms of means, not ends. The Base Force was presented as if the planning had been done, this was the program, and it was time to get on with the budgeting.[17]

More recently, the Clinton Administration published its own assessment of the forces needed for the nation's security in a Bottom-Up Review.[18] Like the Base Force of the previous Administration, the Bottom-Up Review describes what military forces ought to be programmed and is heavy on means, light on ends. The methodology of the Bottom-Up Review lists steps that, in principle, should deal with the uncertainties surrounding the nature of the post-Cold War era and the range of uncertain futures. But beyond describing the methodology, the report is silent on how these uncertainties were handled. As in PPBS, the planning may be more represented than accomplished.

The new, unbounded planning uncertainties the nation faces will not be resolved quickly or permanently, regardless of the amount of detailed study they may be given. The public purse is no longer open for the urgent defense of the nation. National security has moved from a seller's to a buyer's market, with the American public questioning the amount of insurance it needs and the premium it is willing to pay.

The American defense establishment has planned before, at the start of the Cold War and before PPBS. In the late 1940s, the new Department of Defense, with its three military departments as contentious advocates, was fully engaged in the question of what ought to be programmed for the nation's security in an uncertain and rapidly changing world. The planning uncertainties were gradually resolved and the programming for the nation's Cold War posture, with some dissent, began.[19]

If the nation's security institutions want to reengage in planning, they need to confront the following planning axioms:

- The purpose of planning is to inform and facilitate the decision as to what ought to be programmed.
- The job of planning is isolate and deal with the uncertainties that bear upon that decision.

If what ought to be programmed is known or the uncertainties that bear upon what ought to be programmed are resolved, then the planning is done.

How can the uncertainties be pinned?

If the job of planning is to wrestle to the ground the uncertainties about what should be programmed, how can that job be done when many of the uncertainties are simply unresolvable in planning? The future cannot be known with certainty. At least five different methods for handling planning uncertainties can be advanced.

- *Parallel programming.* The development of the atomic bomb was fraught with planning uncertainties:[20] Two fissionable materials for atomic bombs were proposed—U^{235} and Pu^{239}—but the availability of sufficient quantities of neither was assured. So the decision was made to program for the production of both materials. Two methods for the separation of U^{235} from U^{238} were proposed—by gaseous diffusion and mass spectroscopy—but, again, the success of neither was assured. So the decision was made to program both methods until one proved more practicable than the other. These planning uncertainties were confronted, not resolved, by planning; they were accommodated in a decision to program both alternatives, in what is now called parallel programming.[21]

- *Worst case and all-inclusive.* During the Cold War some of the planning uncertainties were addressed by what has come to be called "worst-case" analysis. The decisions about what defensive systems ought to be programmed were usually predicated upon the worst possible conditions—a way of dealing with the uncertainties in the conditions that would actually apply when these defensive systems were called upon. Sometimes—as with strategic forces survivability and ballistic missile defenses—these worst-case assumptions resulted in extreme demands that paralyzed programming or budgeting.

A variant of worst-case planning is a decision to program for all-inclusive objectives—where uncertainties about future objectives can be resolved by subsuming lesser objectives under some larger, encompassing objective. For example, during the Cold War it was presumed that if our military forces were sufficient for deterring (or defeating) the Soviet Union, they should be more than adequate for any lesser foe or contingency. Although that premise did not turn out to be valid under the circumstances of history, the failure was not in the logic, but in the implicit assumption that the qualitative as well as quantitative demands for lesser contingencies could be subsumed within the greater.

- *Trend extrapolation and most probable futures.* One of the most commonly used stratagems for dealing with future uncertainties is to *predict* the future, as, for example, by extrapolating trends in technology. The planning decisions to program many advanced weapon systems have been predicated upon such predictions, more often than not with disappointing and costly results. Where the trends themselves are uncertain, some planners have

"Planning is mostly about ends; programming is mostly about means to those ends."

resorted to statistical devices to predict the most probable future—a risky means of dealing with uncertainties unless the distribution (or range) of the uncertainties is very narrow.[22]

• *Assumption-Based Planning.* A recently developed planning tool for dealing with uncertainties is called Assumption-Based Planning (ABP).[23] It deals with planning uncertainties by looking for vulnerable assumptions in plans and programs and devising specific actions to test and compensate for failures in those assumptions. A Cold War example of the technique (before it was codified as ABP) was the planning approach to the uncertainty about the future survivability of strategic bombers on their bases. Two warning signals of an impending threat were established: the future observation of enemy submarine operations close to the US coast, and enemy testing of submarine-launched missiles on depressed trajectories (to delay their radar detection). Specific hedging actions against those eventualities were then devised, such as making plans to move the bombers inland or to install additional radars.

• *Strategy and vision.* Strategy epitomizes the conceptual passage from planning (ends oriented) to programming (means oriented) and can greatly help in resolving planning uncertainties attending the decision as to what ought to be programmed. If strategy "is a concept for relating means to ends,"[24] that concept alone can define the planning problem and suggest its solutions. For example, General Bernard Rogers' 1980s strategy of "Follow-On Forces Attack" (FOFA) for the defense of Central Europe against echeloned Soviet forces was to attack the following Soviet echelons *before* they could be brought to bear against the conventional NATO ground defenses (which were thought to be capable of withstanding the first-echelon assault). That strategy muted the uncertainties about how many Soviet echelons could be handled by the NATO ground defenses and suggested that what should be programmed were systems that could effectively strike armored forces deep in the enemy's rear areas.

By far the most powerful means for dealing with planning uncertainties is through what has become generally recognized as vision. An institutional vision, by clarifying "an organization's essential sense of identity and purpose,"[25] can resolve many uncertainties by making them irrelevant or inconsequential to the institution's sharply defined purposes.[26] For example, the US Marine Corps' unique sense of identity and clear sense of purpose makes the future uncertainties of budgets and force structures far less conse-

quential than they are to its three brother services, whose identities have become increasingly associated with certain numbers of aircraft carriers, divisions, or aircraft wings. Hence, Marine Corps planning is likely to be less vulnerable than that of the other services to the uncertainty of its future size.[27]

All of these approaches to planning uncertainties have merits and limitations, depending upon the circumstances encountered in planning. Each deals with uncertainty in a different way:

- parallel programming—it *accepts* uncertainty by programming for all alternatives
- worst case and all-inclusive goals—they *encapsulate* uncertainty by making all other situations lesser included cases
- trend extrapolation and most probable futures—they *resolve* uncertainty by predicting the future
- Assumption-Based Planning (ABP)—it deliberately *programs* against uncertainty through warning and hedging actions
- strategy and vision—they can *finesse* many uncertainties by making them orthogonal or irrelevant to sharply focused ends

Of these, predicting the future is the most common, but treacherous, planning tool. Strategy and vision[28] can be the most powerful, but elusive, of the concepts to implement in planning.

Which of these concepts does the recent Bottom-Up Review use in confronting its planning uncertainties? From the current documentation and conversation with some of the principals, the Review appears to lean heavily on predicting the future and all-inclusive goals—the most common and treacherous concepts used during the Cold War. It posits (predicts) four new dangers and then defines the forces (means) to handle those dangers.[29] The primary scenario that dictates these forces is two nearly simultaneous major regional contingencies, against Iraq and North Korea.

What is not apparent in the Bottom-Up Review is a rationale for why these scenarios are the right ones for sizing US forces. The Review describes the scenarios as merely illustrative of potential future wars, not predictive,[30] but neglects the uncertainties that attend their choice. It treats peace enforcement and intervention operations as lesser included cases in that these operations are deemed not to require additional forces beyond those required for two major regional contingencies (although special training and doctrine are called for).

How can planning fail?

If the purpose of planning is to inform and facilitate the decision as to what, if anything, should be programmed, how can planning fail? Any observer of planning should be able to name quite a few ways:

- by failing to decide what should be programmed (e.g., the planning process results in descriptions of the environment or the future, but does not identify the actions to be taken)

- by refusing to confront (not necessarily resolve) important uncertainties or changed circumstances (e.g., the end of the Cold War and declining budgets) in identifying what actions ought to be taken
- by failing to communicate effectively to leadership the circumstances and rationale for the programming actions that ought to be taken
- by failing to follow planning through into conformable programming and allowing the programmers to continue to do their "thing" because they don't understand or like the planning decisions
- by failing to identify appropriate actions in the light of the evident circumstances (e.g., when wishing substitutes for planning)
- by confusing whom the planning is for (e.g., the Army planning for "national security" instead of the Army), thereby confusing interests, objectives, and even responsibilities and authorities

Note that this list of failures does not include the failure of leaderships to adopt the actions identified by the planning process. If planning has identified and clearly communicated appropriate actions and the leadership rejects them, that is a leadership failure, not a planning failure.

What flavor of planning?

Little note has been given here of the different *kinds* of planning—strategic, long range, midterm, near term, short term. That is deliberate. The development and applications of Assumption-Based Planning suggested caution about the distinctions between different kinds of planning: they may be far less important than making sharper distinctions between planning and programming.

Defense planning differentiated on the basis of future time period—five to 30 years into the future—may be artificially constrained in ways that are not productive. During times of stasis, as during much of the Cold War, planning may look out confidently 10 or 20 years into the future; but during the current dynamic period, looking ahead two or five years may be very uncertain. In fact, the 10- to 20-year horizon of confidence during the Cold War gradually eroded over the years to nothing by 1989, without notice by planners until the very end. Planning should not be rigidly categorized by time horizons, but by the decisions it is to illuminate and facilitate.

Defense planning differentiated on the basis of strategic and programmatic may not serve any better than that differentiated by time period because what is strategic and programmatic can also change with planning circumstances. However, planning differentiated on the basis of client is important. Much of PPBS defense planning today presumes that the nation is the client—that the planning serves the nation's security, period. That is altogether appropriate for DOD and (perhaps) JCS planning, but not for the component military services. However much they may be obliged to support

the DOD planning processes through PPBS, they should also be engaged in institutional planning for their own service.

They are, of course, in unconscious or subliminal ways as they support the DOD PPBS, but the absence of overt, explicit planning on their own behalf hurts them. They confuse their own members when the only evidence of their service's planning is couched in terms of the nation's and not their service's interests. The altruism of such a national security perspective may be appealing to many, but the dissembling of legitimate institutional interests is corrosive within the services and, ultimately, may be a *disservice* to the nation's security.

The end of the Cold War provides a good reason and opportunity to return to planning, to put the first P back into PPBS where it can be seen and heard, perhaps for the first time since PPBS was institutionalized. However, the national security institutions may not be intellectually prepared to do so; the Cold War planning environment was clearly preferred over the one that is emerging now. If planning enjoys a renaissance, it should become much more sharply differentiated from programming; and the military services should become overt clients for institutional planning to enhance their own contributions and, yes, their own futures.

NOTES

1. The authors are senior staff members at RAND. The views presented here are their own and do not necessarily reflect those of RAND or its sponsors. The authors are indebted to colleague Colonel W. Michael Hix (Ret.) for his considerable contributions in the preparation of this article.

2. For example, Peter Schwartz, *The Art of the Long View* (New York: Doubleday Currency, 1991) and Perry M. Smith, et al., *Creating Strategic Vision: Long-Range Planning for National Security* (Washington: National Defense Univ. Press, 1987).

3. For example, Ted Greenwood and Stuart Johnson, "NATO Force Planning Without the Soviet Threat," *Parameters*, 22 (Spring 1992), 27-37.

4. The Army describes its contributing part of PPBS as PPBES, with the E representing Execution.

5. Observers have been concerned with the silent P since the late 1970s. See Donald B. Rice, *Defense Resource Management Study* (Washington: GPO, 1979), p. 6.

6. Perry M. Smith, *Assignment: Pentagon (The Insider's Guide to the Potomac Puzzle Palace)* (2d ed., rev.; Washington: Brassey's, 1993), p. 165.

7. Ibid., pp. 165-66.

8. Another contributor to the decline of planning was the common notion in the Pentagon that planning dealt only with the period of time beyond the program years. Since fiscal constraints applied only to the program years, any thinking about the planning years was fiscally unconstrained and viewed as largely irrelevant to the real work at hand: the allocation of resources in the defense program and budget.

9. Planning is "to make . . . a detailed formulation of a program of action." Programming is "to provide with . . . a plan . . . under which action may be taken toward a goal." These definitions can be derived from *Webster's Ninth New Collegiate Dictionary* (Springfield, Mass.: Merriam-Webster, 1981) from the definitions provided therein for plan and planning, program and programming.

10. Indeed, one evidence of the dominance of programming in PPBS is in the attitudinal treatment of planning uncertainties as if they were programming uncertainties—uncertainties that could be resolved by more detailed study.

11. A case study that illustrates the interactive nature of the PPBS process may be found in Leslie Lewis, et al., *Assessing the Structure and Mix of Future Active and Reserve Forces: Assessment of Policies and Practices for Implementing Total Force Policy* (Santa Monica, Calif.: RAND MR-133-OSD, 1992).

12. The concept of containment is most commonly described as a strategy rather than a vision. Here it is called a vision only because it contemplates purpose and outcomes more than the means to fulfill them. George

F. Kennan originally expressed his vision of containment as "a long-term, patient but firm and vigilant containment of Russian expansive tendencies" until "either the break-up or the gradual mellowing of Soviet power." Kennan wrote as "X" in "The Sources of Soviet Conduct," *Foreign Affairs*, 25 (July 1947), 575, 582.

13. Strategy is defined here as a concept for relating means to ends, consistent with Carl H. Builder in *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, Md.: Johns Hopkins Univ. Press, 1989), p. 49.

14. Indeed, one of the important premises of the PPBS structure was that resource requirements were an *output* of the process. The inputs were the national security objectives and the threats posed against them. The analysis was about the least-cost forces to meet those objectives, at some level of effectiveness, in the face of the threats. The cost of those forces was presumed to be the basis for a rationalized budget request. See Carl H. Builder, *Defense Planning Today: Calculus or Charade?* (Santa Monica, Calif.: RAND MR-293-AF, 1993).

15. The only subsequent and significant technological change—precision weapons—came about as the Cold War was ending. The *perfection* of precision weapons came with the appearance of large-scale integrated-circuit microchips in the mid-1970s. They were foreshadowed by the laser-guided bombs toward the end of the war in Vietnam and again in the Yom Kippur war of 1973; but they were first widely demonstrated in the Gulf War of 1991.

16. The military success in the Gulf War appears to have some bearing on its being used as a reference point in military planning. One hears the Desert Storm forces being used as a shorthand for future force requirements, as in "sufficient forces for two Desert Storm equivalents." On the other hand, one never heard of future force requirements being described in Vietnam or Korean war equivalents.

17. Of course, one could argue that the Base Force served a political purpose that outweighed planning: After the fall of the Berlin Wall, the Bush Administration needed quickly to focus the public's attention on some statement of future military force requirements, however derived, to counter the potential spread of the notion that the Cold War was won and the troops could all go home now. Planning, programming, and budgeting all operate in a political context and, therefore, serve political as well as defense planning purposes.

18. Les Aspin, *The Bottom-Up Review: Forces for a New Era*, 1 September 1993.

19. Paul Bracken, in "The Military After Next," *The Washington Quarterly*, 16 (Autumn 1993), 157-74, urges a return to ferment and dissent in national security planning.

20. For an eloquent history of these uncertainties and their resolution, see Richard Rhodes, *The Making of the Atomic Bomb* (New York: Simon & Schuster, 1988).

21. Parallel programming was resorted to again during the urgent development of intercontinental ballistic missiles (ICBMs) when several technical alternatives presented themselves.

22. The problem with most probable futures can be seen from the following analog: In the card game of Blackjack, the most probable value of a dealt card is ten (the value of all face cards and the ten-cards). Yet, one is more likely to be dealt something other than a card with value ten because the other cards are more numerous. Thus, the highest probability *event* (being dealt a card with a value of ten) is not necessarily the most probable *outcome* (which is being dealt a card with a value *other* than ten).

23. See James A. Dewar, et al., *Assumption-Based Planning: A Planning Tool for Very Uncertain Times* (Santa Monica, Calif.: RAND MR-114-A, 1993).

24. Builder, *The Masks of War*, p. 49.

25. This definition of institutional visions is described in John Setear, et al., *The Army in a Changing World: The Role of Organizational Vision* (Santa Monica, Calif.: RAND, R-3882-A, 1990), p. 17. Setear also provides criteria for the effectiveness of institutional visions, pp. 19-21.

26. One of the authors' favorite examples of how visions can make some planning uncertainties irrelevant is found in the hypothetical predicament of a little league soccer coach who has been given the least promising or capable children in the league. While most coaches will be confronted with planning uncertainties such as games won and lost, league standings, and making the playoffs, our hapless coach adopts a vision of her team becoming the most improved in the league. Her planning uncertainties become something quite different from those of the other coaches: How to get the most improvement out of each of her players, regardless of their beginning skills? How to demonstrate those improvements as a motivation to her players?

27. Admiral Rickover's planning for the naval nuclear propulsion program similarly benefited from his clear, steadfast vision of the program.

28. One way to distinguish between strategy and vision is to think of strategy as a concept for dealing with a *problem* and vision as a concept for *orienting an organization*.

29. The forces are 10 active and 5+ reserve Army divisions, 11 active and 1 reserve/training carriers for the Navy, 13 active and 7 reserve Air Force fighter wings, and 3 Marine expeditionary forces.

30. The Review warns, "Every war that the United States has fought has been different from the last, and different from what defense planners had envisioned." The document also cautions against "preparing for past wars." Yet, curiously, both of the contingencies are based on the last two US conventional wars against regular forces—invasions by Iraqi and North Korean forces.

The New Warrior Class

RALPH PETERS

The soldiers of the United States Army are brilliantly prepared to defeat other soldiers. Unfortunately, the enemies we are likely to face through the rest of this decade and beyond will not be "soldiers," with the disciplined modernity that term conveys in Euro-America, but "warriors"—erratic primitives of shifting allegiance, habituated to violence, with no stake in civil order. Unlike soldiers, warriors do not play by our rules, do not respect treaties, and do not obey orders they do not like. Warriors have always been around, but with the rise of professional soldieries their importance was eclipsed. Now, thanks to a unique confluence of breaking empire, overcultivated Western consciences, and a worldwide cultural crisis,[1] the warrior is back, as brutal as ever and distinctly better-armed.

The primary function of any civilization is to restrain human excess, and even Slavic socialism served a civilizing mission in this regard. But as the restraints of contemporary civilization recede and noncompetitive cultures fracture, victim-states often do not have the forces, and the self-emasculated West does not possess the will, to control the new warrior class arising in so many disparate parts of the world. We have entered an age in which entire nations are subject to dispossession, starvation, rape, and murder on a scale approaching genocide—not at the hands of a conquering foreign power but under the guns of their neighbors. Paramilitary warriors—thugs whose talent for violence blossoms in civil war—defy legitimate governments and increasingly end up leading governments they have overturned. This is a new age of warlords, from Somalia to Myanmar/Burma, from Afghanistan to Yugoslavia. In Georgia an ex-convict has become a kingmaker, and in Azerbaijan a warlord who marched on the capitol with a handful of wheezing armored vehicles became prime minister. In Chechnya, on the northern slopes of the Caucasus, a renegade general carved out the world's first state run entirely by gangsters—not the figurative gangsters of high Stalinism, but genuine black marketeers, murderers, drug dealers, and

pimps.[2] Their warriors are the source of power for these chieftains, and the will of the populace, enervated and fickle, matters little when it matters at all.

This article will briefly consider who these new warriors are in terms of their social and psychological origins, and will examine the environment in which they operate. The objective is to provide an intellectual passport into the warrior's sullen world for US military officers and defense analysts, who, given their cultural and professional conditioning, would much rather deal with more conventional threats. This is an alert message from a very dark place.

Most warriors emerge from four social pools which exist in some form in all significant cultures. These pools produce warriors who differ in their individual implacability and redeemability. This differentiation is key to understanding warriors—who outwardly may appear identical to one another—and helps identify human centers of gravity within warrior bands or movements.

First-pool warriors come, as they always have, from the underclass (although their leaders often have fallen from the upper registers of society). The archetype of the new warrior class is a male who has no stake in peace, a loser with little education, no legal earning power, no abiding attractiveness to women,[3] and no future. With gun in hand and the spittle of nationalist ideology dripping from his mouth, today's warrior murders those who once slighted him, seizes the women who avoided him, and plunders that which he would never otherwise have possessed. Initially, the totemic effect of a uniform, however shabby and incomplete,[4] and the half-understood rhetoric of a cause lend him a notion of personal dignity he never sensed before, but his dedication to the cause is rarely as enduring as his taste for spoils. He will, however, cling to his empowering military garb. For the new warrior class, many of whose members possess no skills marketable in peace, the end of fighting means the end of the good times.

The longer the fighting continues, the more irredeemable this warrior becomes. And as society's preparatory structures such as schools, formal worship systems, communities, and families are disrupted, young males who

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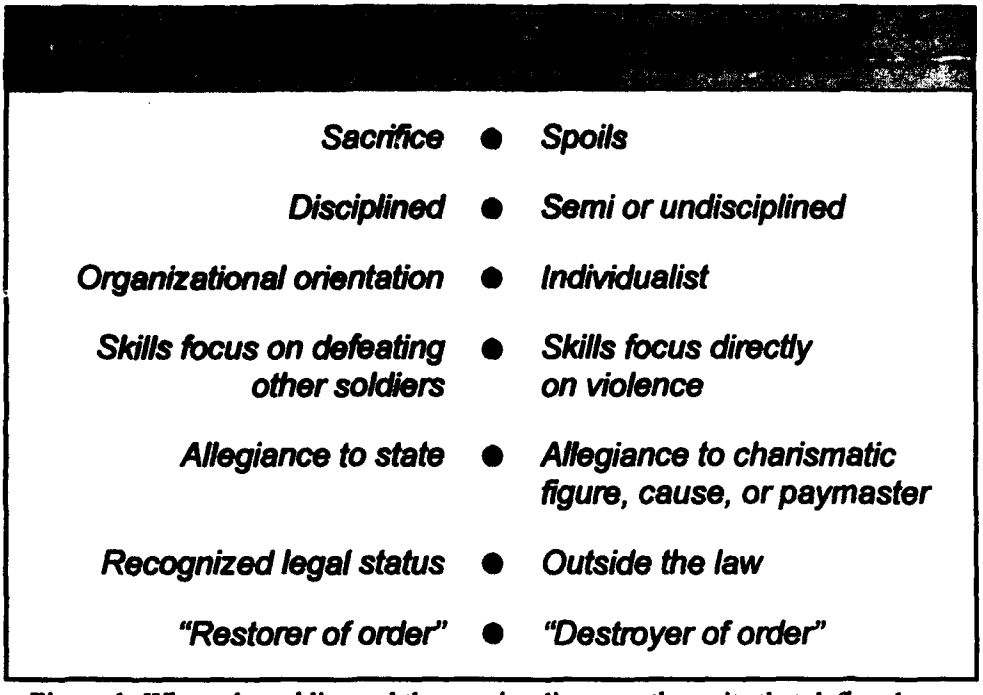

Figure 1: Where the soldier and the warrior diverge—the traits that define them.

might otherwise have led productive lives are drawn into the warrior milieu. These form a second pool. For these boys and young men, deprived of education and orientation, the company of warriors provides a powerful behavioral framework. Although some second-pool warriors can ultimately be gathered back into society, the average warrior who takes up a Kalashnikov at age 13 is probably not going to settle down to finish out his secondary school education ten years later without a powerful incentive.

The third pool of warriordom consists of the patriots. These may be men who fight out of strong belief, either in ethnic, religious, or national superiority or endangerment, or those who have suffered a personal loss in the course of a conflict that motivates them to take up arms. Although these warriors are the easiest to reintegrate into civil structures—especially if their experience of violence is relatively brief—some of these men, too, will develop a taste for blood and war's profits. These warriors are the most individualized psychologically, and their redeemability will depend on character, cultural context, and the depth of any personal loss, as well as on standard characteristics such as goal achievement in their conflict and perceived postwar opportunities for jobs and other societal rewards.

Dispossessed, cashiered, or otherwise failed military men form the fourth and most dangerous pool of warriors. Officers, NCOs, or just charismatic privates who could not function in a traditional military environment,

these men bring other warriors the rudiments of the military art—just enough to inspire faith and encourage folly in many cases, although the fittest of these men become the warrior chieftains or warlords with whom we must finally cope. The greatest, although not the only, contemporary source of military men who have degenerated into warriors is the former Soviet Union. Whether veterans of Afghanistan or simply officers who lost their positions in post-collapse cutbacks, Russian and other former-Soviet military men currently serve as mercenaries or volunteers (often one and the same thing) in the moral wasteland of Yugoslavia and on multiple sides in conflicts throughout the former Soviet Union. These warriors are especially dangerous not only because their skills heighten the level of bloodshed, but also because they provide a nucleus of internationally available mercenaries for future conflicts. Given that most civil wars begin with the actions of a small fraction of the population (as little as one percent might actively participate in or support the initial violence),[5] any rabid assembly of militants with cash will be able to recruit mercenary forces with ease and spark "tribal" strife that will make the brutality of Africa in the 1960s seem like some sort of Quaker peaceable kingdom.

Paradoxically, while the warrior seeks to hold society out of equilibrium for his own profit, he thus prevents society from offering him any alternative to the warrior life. In our century of massive postwar demobilizations, most receiving governments retained sufficient structure to absorb and assist their ex-soldiers. Helpfully, the soldiers of the great armies of the West rarely tasted war's spoils as does the warrior; rather, soldiers experienced war's sacrificial side. But the broken states in which warriors currently control the balance of power do not have the infrastructure to receive veterans and help them rebuild their lives. In many cases, the warrior's roots have been torn up and, since he is talented only at violence, his loyalty has focused on his warlord, his band of fellow warriors, or, simply, on himself.[6] Even should the miracle of peace descend on the ruins of Yugoslavia, the survivor states will be unable to constructively absorb all of the warriors who have fallen away from civilized norms—and the warriors themselves often will have no real interest in being absorbed. In the Caucasus and Afghanistan, in Nicaragua and Haiti, warriors without wars will create problems for a generation.

In the centuries before the rise of modern professional armies, the European world often faced the problem of the warrior deprived of war. In the 16th century—another age of shattered belief systems—disbanded imperial armies spread syphilis and banditry across the continent, and the next century's Thirty Years War—waged largely by warriors and not by soldiers as we know them—saw the constant disbanding and reformation of armies, with the *Soldateska* growing ever more vicious, unruly, and merciless.[7] Arguably modern Europe's greatest trauma, the Thirty Years War formally ended in 1648, but its warriors continued to disrupt the continent until they

"In the Caucasus and Afghanistan, in Nicaragua and Haiti, warriors without wars will create problems for a generation."

found other wars in which to die, were hacked to death by vengeful peasants, or were hunted down like beasts by authorities who finally had caught their breath. Today's warriors have a tremendous advantage over their antique brethren in the struggle for survival, however: the West's pathetic, if endearing, concern for human life, even when that life belongs to a murderer of epic achievement.

For the US soldier, vaccinated with moral and behavioral codes, the warrior is a formidable enemy. Euro-American soldiers in general learn a highly stylized, ritualized form of warfare, with both written and customary rules. We are at our best fighting organized soldieries who attempt a symmetrical response. But warriors respond asymmetrically, leaving us in the role of redcoats marching into an Indian-dominated wilderness. Despite the valiant and skilled performance of the US Army Rangers, our most significant combat encounter in Mogadishu looks just like Braddock's defeat—and Russian regulars were recently "Little Big Horned" in Tajikistan by tribesmen who slipped across the Afghan border.

While the US Army could rapidly devastate any band of warriors on a battlefield, few warlords will be foolish enough to accept such a challenge. Warriors usually stand and fight only when they know or believe they have an overwhelming advantage. Instead, they snipe, ambush, mislead, and betray, attempting to fool the constrained soldiers confronting them into alienating the local population or allies, while otherwise simply hunkering down and trying to outlast the organized military forces pitted against them. US soldiers are unprepared for the absolute mercilessness of which modern warriors are capable, and are discouraged or forbidden by their civilian masters and their own customs from taking the kind of measures that might be effective against members of the warrior class.

The US experience with warriors in Somalia has not been a happy one, but the disastrous UN experience in Yugoslavia has been worse.[6] Imagining they can negotiate with governments to control warrior excesses, the United Nations and other well-intentioned organizations plead with the men-in-suits in Belgrade, Zagreb, and Sarajevo to come to terms with one another.

But the war in Bosnia and adjacent regions already has degenerated to a point where many local commanders obey only orders which flatter them. Should a peace treaty ever come to signature, the only way to make it work will be for those forces loyal to the central authorities to hunt down, disarm, and if necessary kill their former comrades-in-arms who refuse to comply with the peace terms. Even then, "freedom fighters," bandits, and terrorists will haunt the mountain passes and the urban alleys for years to come.

On the West Bank of the Jordan and in Gaza, the newly legitimized Palestinian authorities face formidable problems with two lost generations, unskilled or de-skilled, whose heroes answer offers of dialog with terror and for whom compromise appears equivalent to prostitution. Without the Intifada, many Palestinians, from teenagers to the chronologically mature, have no core rationale for their lives. At a virtually immeasurable cultural remove, Irish Republican Army terrorists are heroes only until the counties of Northern Ireland find peace. In Sri Lanka, many Tamil rebels will never be able to return to productive lives in a settled society—nor will many of the Khmer Rouge, Philippine communists, Angola's UNITA rebels, or any of Africa's other clan-based warriors masquerading behind the rank and trappings of true soldiers.[9] Even in the United States, urban gang members exhibit warrior traits and may be equally impossible to reconcile to civilized order as it is generally valued in Euro-America. For the warrior, peace is the least-desirable state of affairs, and he is inclined to fight on in the absence of a direct, credible threat to his life. As long as the warrior believes he can survive on the outside of any new peace, he will view a continuation of warfare through criminal means as the most attractive alternative. And there is good reason for the warrior to decline to lay down his arms—the most persistent and ruthless warriors ultimately receive the best terms from struggling governments. Indeed, they sometimes manage to overthrow those governments and seize power when the governments tumble into crisis after failing to deliver fundamental welfare and security to the population.[10]

In addition to those warriors whose educations—however rudimentary—were interrupted, men who fall into the warrior class in adulthood often find their new situation far more pleasant than the manual labor for subsistence wages or chronic unemployment to which peace had condemned them. The warrior milieu allows pathetic misfits to lead lives of waking fantasy and remarkable liberties. Unlike organized militaries, paramilitary bands do not adhere to rigorous training schedules, and when they need privies, they simply roust out the locals at gunpoint and tell them where to dig. In the Yugoslav ruins, for instance, many of the patriotic volunteers (identical, whether Serb, Croat, or Bosnian Muslim) find that war gives them leisure, choice, and recognition, as well as a camaraderie they never knew in the past. The unemployed *Lumpenproletarier* from Mostar or Belgrade can suddenly identify with the action-video heroes he and his comrades admire between raids on villages where only women, children, and old men remain.

In Armenia, during a period of crisis for Nagorno-Karabakh, I encountered a local volunteer who had dyed his uniform black and who proudly wore a large homemade swastika on his breast pocket, even though his people had suffered this century's first genocide.[11] The Russian mercenaries who rent out their resentment over failed lives almost invariably seek to pattern themselves after Hollywood heroes, and even Somalia's warlords adorn themselves with Anglo nicknames such as "Jess" or "Morgan."[12] This transfer of misunderstood totems between cultures has a vastly more powerful negative effect on our world than the accepted logic of human behavior allows. But, then, we have entered an age of passion and illogic, an era of the rejection of "scientific" order. That is exactly what the pandemic of nationalism and fundamentalism is about. We are in an instinctive, intuitive phase of history, and such times demand common symbols that lend identity and reduce the need for more intellectualized forms of communication. Once, warriors wore runic marks or crosses on their tunics—today, they wear T-shirts with Madonna's image (it is almost too obvious to observe that one madonna seems to be as good as another for humanity). If there are two cultural artifacts in any given bunker in the Bosnian hills, they are likely to be a blond nude tear-out and a picture of Sylvester Stallone as Rambo.[13] Many warriors, guilty of unspeakable crimes, develop such a histrionic self-image that they will drop just about any task to pose for a journalist's camera—the photograph is a totem of immortality in the warrior's belief system, which is why warriors will sometimes take the apparently illogical step of allowing snapshots of their atrocities. In Renaissance Europe (and Europe may soon find itself in need of another renaissance), the typical *Landsknecht* wanted money, loot, women, and drink. His modern counterpart also wants to be a star.[14]

Worldwide, the new warrior class already numbers in the millions.[15] If the current trend toward national dissolution continues, by the end of the century there may be more of these warriors than soldiers in armies worthy of the name. While exact figures will never be available, and statistics-junkies can quibble endlessly as to how many warriors are really out there, the forest looks dark and ominous enough without counting each last tree. And perhaps the worst news comes right out of *Macbeth*: the trees are moving.

Warrior-mercenaries always moved. Irishmen fought for France, Scots for Sweden, and the Germans sold their unwashed swordarms to everyone from Palermo to Poland. But today's improved travel means allow warriors deprived of "their" war to fly or drive to the next promising misfortune. Mujahedeen from Afghanistan, recently adored by Americans, have turned up in Azerbaijan,[16] and Russian brawlers with military educations are fighting in Bosnia, Croatia, Georgia, Nagorno-Karabakh, Tajikistan, and as enforcers for the internationalizing Russian mafia. One of the most intriguing characters I've met in the Caucasus was an ethnic-Armenian citizen of Lebanon who had been trained by the PLO in the Bekaa Valley to fight Turkic Azeris in Karabagh. The Azeri warriors he faced have been trained by

entrepreneurial Russians, exasperated Turks, and reportedly by Iranians and Israelis.[17] In Bosnia, mustered out Warsaw Pact soldiers serve in the same loosely organized units as adventure-seeking Germans and Frenchmen.[18] In this regard, it might be in the interests of surrounding countries to let the fighting in Bosnia stew on: when that pot cools there is going to be a lot of unattractive spillage. Yugoslavia and the wars on Russia's crumpled frontiers are vast training grounds for the warriors who will not be content without a conflict somewhere. While most warriors will attempt to maintain their privileges of violence on their own territory, within their own linguistic groups, the overall number of warriors is growing so quickly that even a small percentage migrating from trouble spot to trouble spot could present a destabilizing factor with which we have yet to reckon.

The US Army will fight warriors far more often than it fights soldiers in the future. This does not mean the Army should not train to fight other organized militaries—they remain the most lethal, although not the most frequent, threat. But it would be foolish not to recognize and study the nasty little men who will haunt the brutal little wars we will be called upon to fight within the career spans of virtually every officer reading this text.[19]

There are quite a few realistic steps we might take to gain a better grasp on these inevitable, if unwanted, opponents. First, we should begin to build an aggregate data base that is not rigidly compartmented by country and region. We may deploy to the country where Warlord X has carved out his fief, or we may meet him or his warriors on the soil of a third-party state.[20] The future may create allegiances and alliances which will confound us, but if we start now to identify likely players, that drab, laborious, critical labor may pay significant dividends one day. As a minimum, if we start files on warrior chieftains now, we will have richer background files on a number of eventual heads of state. Such a data base will be a tough sell in a time of shrinking staffs and disappearing budgets, and analysts, accustomed to the luxury of intellectual routine, will rebel against its challenge and uncertainty. But in practical terms, studying potential opponents of this nature now will pay off on two counts: first, when we fight we will be more likely to know whom we're fighting; second, the process of compiling such a data base will build human expertise in this largely neglected field.[21]

We also need to struggle against our American tendency to focus on hardware and bean-counting to attack the more difficult and subtle problems posed by human behavior and regional history. For instance, to begin to identify the many fuses under the Caucasus powderkeg, you have to understand that Christian Armenians, Muslim (and other) Kurds, and Arabs ally together because of their mutual legacy of hatred toward Turks. The Israelis support Turkic peoples because Arabs support the Christians (and because the Israelis are drawn to Caspian oil). The Iranians see the Armenians as allies against the Turks, but

"The US Army will fight warriors far more often than it fights soldiers in the future."

are torn because Azeri Turks are Shi'a Muslims.[22] And the Russians want everybody out who doesn't "belong." Many of these alignments surprise US planners and leaders because we don't study the hard stuff. If electronic collection means can't acquire it, we pretend we don't need it—until we find ourselves in downtown Mogadishu with everybody shooting at us.

We need to commit more of our training time to warrior threats. But first we need to ask ourselves some difficult questions. Do we have the strength of will, as a military and as a nation, to defeat an enemy who has nothing to lose? When we face warriors, we will often face men who have acquired a taste for killing, who do not behave rationally according to our definition of rationality, who are capable of atrocities that challenge the descriptive powers of language, and who will sacrifice their own kind in order to survive. We will face opponents for whom treachery is routine, and they will not be impressed by tepid shows of force with restrictive rules of engagement. Are we able to engage in and sustain the level of sheer violence it can take to eradicate this kind of threat? To date, the Somalia experience says "No."

Although there are nearly infinite variations, this type of threat generally requires a two-track approach—an active campaign to win over the populace coupled with irresistible violence directed against the warlord(s) and the warriors. You cannot bargain or compromise with warriors. You cannot "teach them a lesson" (unless you believe that Saddam Hussein or General Aideed have learned anything worthwhile from our fecklessness in the clinch). You either win or you lose. This kind of warfare *is* a zero-sum game. And it takes guts to play.

Combatting warriors will force us to ask fundamental questions about ourselves as well as about our national and individual identities and values. But the kind of warfare we are witnessing now and will see increasingly in the future raises even more basic issues, challenging many of the assumptions in which liberal Western culture indulges. Yugoslavia alone raises issues that have challenged philosophers and college freshmen since the first professor faced a student. What is man's nature? Are we really the children of Rousseau and of Benetton ads, waiting only for evil governments to collapse so that our peaceable, cotton-candy natures can reveal themselves?

Or are we killing animals self-organized into the disciplinary structures of civilization because the alternative is mutual, anarchic annihilation? What of all that self-hobbling rhetoric about the moral equivalency of all cultures? Isn't it possible that a culture (or religion or form of government) that provides a functional combination of individual and collective security with personal liberties really does deserve to be taken more seriously than and emulated above a culture that glorifies corruption, persecutes nonbelievers, lets gunmen rule, and enslaves its women? Is all human life truly sacred, no matter what crimes the individual or his collective may commit?

Until we are able to answer such questions confidently, the members of the new warrior class will simply laugh at us and keep on killing.

NOTES

1. See Samuel P. Huntington, "The Clash of Civilizations," *Foreign Affairs*, 72 (Summer 1993), 22-49, for a brilliant, courageous analysis of this metastasizing cultural crisis. Huntington was subsequently attacked in print by whole tribes of pygmies, none of whom made a dent in his thesis. See also my article, "Vanity and the Bonfires of the 'isms," *Parameters*, 23 (Autumn 1993), 39-50.

2. For background on the Chechens, see Marie Bennigsen Broxup, ed., *The North Caucasus Barrier* (London: Hurst and Company, 1992), or, for a fascinating historical perspective, Sh. V. Megrelidze, *Zakavkaze v Russko-Turetskoy Voine* (Tbilisi: Metsniyereba, 1972). In fairness, it must be noted that the peoples of the North Caucasus generally view Djokar Dudayev's Grosny government in a markedly positive light, crediting him as a patriot and capable organizer, as was brought home to me by Dr. Zaur Dydymov, the energetic and talented Head of the Juridical Department of the Daghestan Republic Council of Ministers.

3. As a draft of this article circulated, nothing excited so much comment as this phrase. In general, the otherwise positive puritanism of the US officer corps and Foreign Service cripples our ability to understand some starkly fundamental human motivations. We fear the hurricane of biology nearly as much as we distrust intuition, barricade ourselves behind the quantifiable, and practice Jomini even as we quote poor translations of Clausewitz (US officers have no sense of Clausewitz's Promethean Romanticism but sense that there's nonetheless some sort of uncomfortable darkness about the guy). Confronted with "rape cultures," such as those of Slavic Orthodoxy or Sub-Saharan Africa, we recoil to concentrate on the local traits that bear a reassuring resemblance to our own behavioral structures—not on the crucial differences.

4. The government of Croatia chose the US Battle Dress Uniform for its military, not least for its evocative associations. A visit to the provisional military museum in downtown Zagreb provides a wealth of stimulating images, among them the World War II Croatian military's aping of *Wehrmacht* uniforms (*Bundeswehr* dress uniforms are still in vogue), and the 1990s look for front line and COMMZ, the all-American BDU. The reasons for such choices and tendential shifts are worth another article, at least.

5. For a classic study of how the bold, ruthless few drive the many, see Joachim C. Fest, *Hitler*, Volume One, *Der Aufsteig* (Frankfurt/M: Verlag Ullstein, 1973). Also, the various writings of Sebastian Haffner on the rise and appeal of National Socialism; Elias Canetti, *Masse und Macht*; any serious work on the 1917 Bolshevik coup. Sociopolitical earthquakes, from the Reformation to the American Revolution, rarely have the *active* support of even one percent of the population in their germinal phases. The majority of military coups in the non-competitive world also involve far less than one percent of the population in their mechanisms. For nonpolitical, nonmilitary examples of the tyranny of tiny, self-absorbed minorities over the mass, consider the impoundment of own cultural upper register by various activist groups. Intriguingly, current research in the field of complexity offers a scientific demonstration of how the activity of seemingly inconsequential variables can spark immeasurably disproportionate reactions.

6. Especially for US Army officers and diplomats, this century's great forgotten revolution and civil war—the Mexican experience—merits study. An entry-level work is Ramon Eduardo Ruiz, *The Great Rebellion, Mexico, 1905-1924* (New York: W. W. Norton, 1980). For a superb group portrait of "warriors," read Mariano Azuela's out-of-print novel, *The Underdogs*, which provides remarkable insights into how Mexico's revolutionary warriors degenerated.

7. Ricarda Huch, *Der Dreissigjaehrige Krieg* (Frankfurt/M: Insel Verlag, 1912, 1914). Although Huch—the only major German historian to defy Hitler—is stylistically out of fashion, this monumental work presents the richest picture ever encountered by this author of how extended wars infected with a religious (read also

"nationalist or ethnic") bias can annihilate moral and social orders. No one who has read this work could fail to be haunted by its images. Also, Golo Mann, *Wallenstein* (Frankfurt/M: S. Fischer Verlag GmbH, 1971), or, for English-only readers, the classic, and classically restrained, study by C. V. Wedgwood, *The Thirty Years War* (London: Johnathan Cape, 1938). A study of the Thirty Years War is essential to understanding modern continental Europe, why Euro-Americans make war in such a stylized fashion, and why we are so nonplussed by events in former Yugoslavia.

8. Personal conversations with UNPROFOR and UNHCR officers in Croatia, January-February 1994.

9. For a striking, highly readable, and provocative account, see Robert D. Kaplan, "The Coming Anarchy," *The Atlantic Monthly*, February 1994. Kaplan is willing to take physical and intellectual risks most American journalists shun. His book, *Balkan Ghosts*, offers a fine, quick introduction to a region we will still fail to understand after US troops have been there for a decade or two.

10. This happened in 1993, in Azerbaijan, with the Huseinov coup, although the primary coupmaker has been marginalized for now.

11. Many Armenian Fidayeen militiamen wear black uniforms with white Armenian crosses—a very different matter.

12. For the best reporting that came out of the US intervention in Somalia, see the series of articles by Sean Naylor, then by Katherine McIntire, in *Army Times*, between January and March 1993. These two reporters avoided the Mogadishu trap and went down-country to get the story the remainder of the media missed. Their work represents remarkable journalism from an often-overlooked source.

13. See the extensive 1992 and 1993 reporting by *Der Spiegel*, with its frequent character studies of the participants in the latest Balkan War.

14. Again, this is the sort of motivational issue with which US officers and analysts are ill-prepared to cope. Prisoners of rationalism at its most pedestrian, we are simply not alert to the "irrational" cultures and individuals covering most of this planet.

15. A country-by-country assessment of extant and potential warriors yields round numbers well into the millions—at the most conservative count. Not only are many African military establishments filled with warriors and not soldiers as we know them (see Kaplan again), but the pools of *potential* warriors in the former Soviet empire and in China reach into the tens of millions.

16. See *Hurriyet*, Istanbul, 23 December 1993, "Turkey to lift the arms embargo against Azerbaijan." Also, from the Armenian side, SNARK reports of 16 December 1993; Radio Yerevan (Azeri broadcast), 31 January 1994; Aragil Electronic News Bulletin, 10 February 1994, all Yerevan.

17. Multiple reports, Russian, Azeri, Armenian, and Turkish press.

18. *Der Spiegel*, as above.

19. For an incisive survey of the historical dimensions of the problem, see *Great Powers And Little Wars*, ed. A. Hamish Ion and E. J. Errington (Westport, Conn.: Praeger, 1993).

20. A daintily ignored aspect of this is that ethnic cleansing *works* as a solution to ethno-national competition. For all the attendant misery, the expulsion of ethnic Germans from East Prussia, Pomerania, Silesia, and Czechoslovakia after 1945 brought regional stability, as did the post-World War I expulsion of the Greeks from Anatolia. From the dispersion of the Jewish people by Roman legionnaires to the near-extermination of the Plains Indians, history is swollen with examples of brutal ethnic cleansing that ultimately accomplished its purpose—making the world safe for ethnocracy. Just because something is loathsome doesn't mean it isn't effective.

21. Given the fluid nature of the warrior problem, this may appear to be an impossible mission—yet, there is no practical alternative.

22. Magda Neiman, *Armyanye* (St. Petersburg: 1898); S. T. Zolyan and G. K. Mirzoyan, *Nagorney Karabakh i Vokryg Nyevo* (Yerevan: 1991); Artem Ohandjanian, *Armenien* (Wien: Boehlau, 1989); the classic *Deutschland und Armenien, 1914-1918, Samlung Diplomatischer Aktenstuecke*, assembled by Dr. Johannes Lepsius (Potsdam: Tempelverlag, 1919); W. E. D. Allen and Paul Muratoff, *Caucasian Battlefields* (Cambridge, Eng.: Cambridge Univ. Press, 1953); Christopher J. Walker, *Armenia* (New York: St. Martin's Press, 1980); Ronald Grigor Suny, *Looking Toward Ararat* (Bloomington: Indiana Univ. Press, 1993); Christopher J. Walker, ed., *Armenia and Karabagh* (London: Minority Rights Publications, 1991); Audrey L. Altstadt, *The Azerbaijani Turks*, (Stanford, Calif.: Hoover Press, 1992). After all of the scholarly studies, this aspect of the Trans-Caucasian problem was best brought home to me by an Iranian diplomat who gave me a lift into Yerevan from the airport at one in the morning in the summer of 1992. He needed help carrying his diplomatic pouches. Delighted to speak with a US citizen, he repeatedly stressed the importance of "telling the Armenian story" in the West. In so much of the world, the political situation is vastly more complex than the vanity of the Department of State allows.

Managing the US Defense Industrial Base: A Strategic Imperative

MIKE AUSTIN

The United States government is hindered by the uncertainty which pervades nearly every aspect of domestic activity and foreign policy. Unanticipated political, social, and economic phenomena—disorder, globalization of national economies, and various regional attempts to integrate economic and national security policies—suggest the complexity of the environment in which US defense planning is being conducted. It is within this dynamic context that the defense industrial base must be managed to ensure that risks to national security—some old, some new, some merely unfamiliar—are not aggravated by failure to preserve and exploit our competitive advantages in technology and productivity.

It is difficult to isolate and analyze even the predominant factors that affect national security policy and national military strategy. Many of the defining policies, doctrines, judgments, procedures, and organizational relationships which once guided us in such matters have not been validated or reaffirmed since 1992. The division of labor among nations, within the federal government, and between our domestic public and private sectors is confused. We struggle to assign labels or devise enduring structures to deal responsibly with industrial and resource issues derived from dramatically altered threat assessments, military force structure decisions, and the required adjustments in national and military operational and logistical infrastructures. Much-abused paradigms and "New World Orders" emerge and are disavowed or discredited before the ink is dry. Most observers, and certainly many of the participants, accept the conclusion of the 1993 Naval War College Global War Games that "change itself has become the norm." We must seek to

understand and manage this process of living with constant change if we intend to preserve our national interests.

We are replacing Cold War assumptions and concepts whose purpose was to ensure a robust and responsive military component of national security strategy. Four topics among the many that confront defense planners in this new environment deserve particular attention. All have in common a search for reasonable assumptions and affordable policies to exploit what is undoubtedly our greatest national strength: a highly competitive and technologically advanced industrial base which can be sustained largely by market forces independent of direct intervention by the federal government. The four topics are the relationship between mobilization planning and the industrial base; the requirement to develop and assess resource preparedness options; the need to remain aware of how the defense technology industrial base is changing; and the Federal Emergency Management Agency's evolving role in managing US industrial preparedness.

Industrial Preparedness and Mobilization

One cannot consider mobilization without assessing the strategic implications of industrial preparedness. It may be fashionable to disavow the circumstances under which we would mobilize some or all of our production means. Nevertheless, we have to consider such admittedly worst-case circumstances when managing the defense industrial base. Any nation needs a credible mobilization capability to deal with an emergent threat which exceeds the capability of its active military forces and their means of sustainment. Public support for limited US mobilization capability, while reasonably assured, cannot be assumed to include industrial preparedness measures required to mobilize beyond peacetime levels of operation. Herein lies the nemesis of defense planners in and out of uniform and in and out of government: how to retain the organizational structure, human skills, and resource base needed in a crisis to balance requirements, response time, and essential production capacities.

Even those military planners most dependent on the adequacy of industrial preparedness falter when choosing between immediate operational capability and longer-term requirements. All the armed services have been sacrificing investment accounts since 1990 to maintain near-term readiness.[1] In

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the absence of compelling warning indicators it is easy to rationalize loss of production capability that is perceived to be in excess of immediate needs. Some might conclude that our current emphasis on swift victory seeks to make a virtue of necessity, substituting speed for the reduced ability to sustain the force.

Industrial preparedness requirements—plans for production surges, equipment modifications, and new systems—have not changed substantially since the end of the Cold War. It is still true that peacetime planning and funding will not sustain a significant military engagement or compensate for supply shortfalls during mobilization. If anything, the Bottom-Up Review (BUR) has widened the normal gap between peacetime and crisis readiness requirements. Industry must nevertheless be able to produce and sustain weapon systems that incorporate our technological advantages. Those systems use sophistication, rather than volume, to prepare the battlefield. They minimize infrastructure support requirements and they enable short-term power projection as a policy option. Industrial preparedness response in a crisis will have to be carefully tailored, becoming "smaller," quicker, and more sophisticated, if we are to remain dominant into the 21st century.

The planning, response, and recovery imperatives of this new era require a national industrial preparedness program that has the clear endorsement and full support of the President. We need to support an industrial preparedness planning system which would implement the National Security Strategy and be systematically updated, tested, and evaluated. Most important, an executive-level federal agency must be able to translate White House support, required to meet statutory and presidentially delegated responsibility, into effective programs that develop, maintain, and fund the activities associated with national industrial preparedness planning. Periodic examination and presentation of industrial preparedness deficiencies would be integral to the agency's mission. That task presently belongs to the Federal Emergency Management Agency (FEMA).

Resource Preparedness Options

Federal agencies and industry, many of the latter having surged production during the Gulf War, have analyzed the lessons from that war to validate current industrial requirements, identify production problems, and define potential new requirements and associated preparedness problems. In support of this work, the Institute for Defense Analyses (IDA) has used the Critical and Strategic Materials Stockpile planning process to design and assess a number of future national security resource preparedness options. Follow-on work, which builds on macro and micro economic analysis procedures used by the Defense Department and civil agencies, demonstrates the need for a systematic industrial assessment methodology, one which incorporates key planning assumptions including the important dimension of time.[2]

"Peacetime planning and funding will not sustain a significant military engagement."

The end of the Cold War and the outcome of the BUR have not done away with the requirement to examine the changing nature of potential threats and US capacity to respond to them. The required assessments can be illustrated with two cases that are similar to the two major regional conflicts (MRCs) portrayed in the BUR. The results demonstrate how, given minimal planning assumptions (such as approximations of defense guidance and the Joint Military Net Assessment scenarios), we can anticipate industrial base problems and related constraints that would impede, if not prevent, execution of national security strategy in response to BUR-like scenarios.

The methodology uses existing federal agency models to represent relationships—within specific critical industrial sectors—of prime contractors and their essential sub-tier producers and vendors.[3] The methodology assumes that the time required to identify and evaluate potential industrial bottlenecks and related shortfalls in peacetime is as valuable to policy formulation as the time it will take to produce new end items and components in a crisis. In anticipation of their use in contingencies, the models can and should be run regularly to support research projects and exercises. The models can also be used routinely to explore peacetime resource options, measuring and assessing investment risks.

Within the limits of the assumptions that underlie the models, the illustrative cases identify the 15 US industrial sectors that could not recover from two MRCs without government intervention. The models can estimate the nature of manufacturing shortfalls and the time required to recover from first one and then a second MRC. The models also take into consideration graduated mobilization response options to suggest how each of the 15 problematic industrial sectors might be managed to prevent shortfalls. This capability suggests how we might operate successfully within the fragile confines of the "two MRC" scenario. When coupled with a mobilization planning system, this assessment capability would suggest ways to prioritize policy options. It could also indicate when we ought to temporize during a developing crisis via diplomatic or economic responses.

The research goes beyond examining emergency preparedness options. It could be used to guide the process of apportioning depot maintenance work between public and private sources; to establish capability thresholds for the 1995 Base Closure and Realignment process, and to suggest appropri-

ate divisions of labor with allies and potential coalition partners in any contingency.

The models provide only general indicators of industrial sector difficulties. Nevertheless, they can show us where to look for specific industrial base problems that, if left undiscovered until a crisis, could degrade readiness or constrain military response options. Such information, used with tailored intelligence assessments of the capabilities and limitations of an adversary, could focus on the flexible and sustainable industrial preparedness needed to manage a crisis or to prevail on the battlefield. The models could become essential management tools in political and military command centers, and increasingly in corporate board rooms where key industrial response decisions will be made in future crises.[4]

Evolution Within the Defense Technology Industrial Base

The defense technology industrial base (DTIB) is adjusting, or being adjusted, to compensate for changing defense requirements and significantly altered civilian and government business opportunities. Defense budgets have fallen nearly 40 percent since 1985.[5] This decline has curtailed independent research and development activities as industry adjusted to shorter production runs and short term contracts. It has led to consolidations as prime contractors focus on core competencies, and to erosion of the critical sub-tier of industrial contractors and vendors.

Two groups, with motives not necessarily in harmony, are fully engaged in adjusting the DTIB. Members of Congress and the Administration are attempting to change the business environment, including the culture within which the defense industry must operate, while protecting their constituents. Conversely, individual corporations and defense suppliers, driven by the changed defense market, are facing the dilemma of refocusing on core competencies that may have little, if any, relevance to known or anticipated defense needs.

Diversification has been proposed as a panacea for industries seeking alternatives to defense contracts. While it has become apparent that diversification is generally not a useful option for major defense producers, the experience of the past four years has produced some alternative strategies. These include continued low-level production to preserve a "warm" production base; constructive international interdependence; expanded dual-use and commercial practices and capacity; and "prototyping" to develop advanced weapon systems, keep the technologies current, and defer full production. While each alternative offers some promise, none of them meets all requirements. Preservation of a warm base, while easily the preferred solution, loses its appeal when overhead costs and prohibitively high unit costs must be justified to constituents and shareholders.

Retention of excess capacity, even for national defense purposes, will be a hard sell as the defense industry moves toward marketplace business practices. The *Seawolf* submarine program and subsidies to shipyards capable of producing aircraft carriers will remain rare exceptions. Consequently, without excess capacity we may not be able to surge in order to sustain two MRCs, let alone recover quickly from their combined effects on stocks of munitions, end items, major subassemblies, and repair parts. Plans based on unexamined assumptions—about the duration of an operation or the sustainability of committed forces—can be confounded by opponents willing to accept protracted engagements to ensure that the United States achieves neither its military nor its diplomatic objectives.

International cooperation under the best of circumstances, such as the carefully nurtured standardized and largely interoperable NATO environment, presents many difficulties. Even at the peak of the Cold War, NATO agreements were profoundly influenced by differing national approaches to defense procurement. Traditions of government intervention or direct support to industry, and national political, social, and economic demands, frequently proved more compelling than national security. Not unlike members of Congress, Western European parliamentarians see most industrial preparedness initiatives and co-production schemes through a different prism than civil and military resource planners. Tangible short-term gains must be readily apparent, while long-term advantages have to be highly leveraged to build and nurture fragile international commitments to defense production.

Dual-use and commercial applications, even with relaxed specification and procurement guidelines, are quickly depleted as one moves up the subcontractor hierarchy to the few prime contractors that serve as system integrators. Military-unique and technology-specific capabilities will continue to be found exclusively within the very small family of prime contractors. The unprecedented commitment of DOD and the Congress to remove acquisition constraints which have prevented some defense contractors from exploiting defense-funded programs in civilian applications is encouraging, as long as expectations remain realistic. Flexible manufacturing and other innovative measures to shorten production cycle time and improve responsiveness could significantly enhance the value of this alternative.

Finally, prototyping, like the others, offers some relief by creating options which preserve unique manpower skills, retain a warm base, and foster continuing product enhancement and technology integration. However, costs associated with prototyping limit applications of this alternative.

The challenge for government and industry alike is to guide the evolution of the defense technology industrial base to exploit the advantages of each of the four alternatives described here. None of the four is entirely satisfactory. Overhead costs, vulnerability to alliances and coalitions when involved with offshore production and procurement, unrealistic assumptions

"Perhaps maintaining the essential features of the defense technology industrial base is part of the insurance policy that Americans expect their government to establish for them."

about diversification and dual use concepts—all challenge industry and government to find ways to reduce the burden of defense spending. Nor should we forget that companies are in business to make money; they will not be able to bear a disproportionate share of the costs of any of the alternatives. Perhaps maintaining the essential features of the defense technology industrial base is part of the insurance policy that Americans expect their government to establish for them.

The Role of the Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is completing its reorganization from a traditional, hierarchical vertical structure to a more horizontally oriented, functionally aligned organization emphasizing teaming and program delivery.[6] It remains to be seen how the agency plans to meet its national security emergency preparedness obligations while creating a government mechanism that works better and costs less than its predecessor.

A number of changed circumstances will define the choices available to logisticians, industrialists, and national decisionmakers in responding to crises. Peacekeeping, whether under the UN or with coalition partners, response to domestic or international disasters, crisis management, and other demands on national resources can no longer be considered lesser included requirements of planning for a global Cold War. Focused planning is now required for each of the potential types of operational requirements that the nation faces.

As we depend increasingly on dual-use and commercial elements of the industrial base to meet national security requirements, our view of preferred ways and means to intervene in a crisis may also change. In many instances it will be civil—rather than defense—industrial resources and capabilities that will determine the strategy employed, allowable recovery time, and affordability, political as well as economic.

New emergency management roles and the optimal organization to fulfill them can go well beyond current experiments with functional structures and matrix management to fulfill agency responsibilities. The "agile manufacturing" concepts now evolving in industry offer an inherently more fluid

and flexible approach to crisis response and management. The Iacocca Institute at Lehigh University has worked closely for the past three years with American business leaders, many of whom have played essential roles in defense preparedness, to develop a vision of an "agile enterprise." Such an enterprise will compete aggressively on the strength of its employee skill base, a horizontal and flexible management structure that empowers individuals and teams, and flexible content, process, and communications technology that gets the right information to the right person at the right time.[7]

One source defined the concept of agility as follows:

> Agile manufacturers of the future will be characterized by cooperativeness; rapid production of high-quality, customized goods; decentralized decision-making power, and an information infrastructure that links customers, manufacturing, engineering, marketing, purchasing, financing, sales, inventory, and research. Speed in responding to market will be the principal virtue of agile companies, which will produce-to-order rather than stock-and-sell.[8]

To get to the envisioned three-day cycle for automobile manufacturing (from customer order to ready for shipment), agile manufacturing must begin with government acquiescence to its first characteristic: cooperativeness. The "agile" approach is intended to carry over into other product lines and industrial sectors, including those essential to national security.

We should consider how to apply the precepts of "agility" to bureaucratic structures to improve government coordination and responsiveness by drawing upon all available resources in a crisis. The concept emphasizes the key strength of agility, the ability to thrive in an environment of continuous and unanticipated change.

One breakout proposal for applying "agile" manufacturing functions to bureaucracies is through a "virtual organization." Such an entity would exist as a communications forum for managing ongoing, task-focused, customer-oriented temporary emergency response arrangements. Each civil resource agency as well as DOD would participate in the forum. This concept of teaming on resource issues would offer two advantages. First, it would build on the core competencies developed within FEMA and the other civil resource agencies during the Cold War. More important, the virtual organization would be independent of the structural framework and overhead associated with Cold War emergency planning processes and procedures. Many of those cumbersome organizational relationships and check-and-balance procedures were created for worthy bureaucratic purposes which have been long forgotten. The virtual organization concept can thus redefine the major components of national security emergency planning.

To manage national security emergency planning through a virtual organization, participants would concentrate on four functions which, while similar in name to more conventional processes in established bureaucratic

"The key strength of agility is the ability to thrive in an environment of continuous and unanticipated change."

structures, would differ significantly from them in concept and execution. The four functions are warning time, mobilization, response, and information management.

Warning Time

It would be one of the tasks of the virtual organization to monitor warning data, synthesizing it into information required to develop policy options in the four categories. The agile principle would maintain an information infrastructure that links customers, research, and all of the related intelligence activities in a forum through which any member of the virtual organization could contribute to policy-development and problem-solving processes. This modified concept of what we mean by warning would lead to defining "actionable warning" times appropriate to each of the four categories.

Mobilization

"Agile mobilization" discounts the value of overt mobilization measures used in the past, whether to signal national resolve, to help manage an emerging crisis, or to enhance the credibility of our deterrent posture. The agile environment suggests that "stealthy mobilization" may be required to mask operational constraints or resource shortfalls which could reveal our capacity to sustain current operations or to deal with a second major military contingency. New scenarios suggest instances when selective and tailored surge or mobilization efforts might send the wrong signal to potential allies, coalition partners, or adversaries. Awareness of resource vulnerabilities, shortfalls in critical end items, and the absence of compensating reserves or augmentation options could encourage competitors and adversaries to take calculated risks that would have been unthinkable during the Cold War. We may find that this potential need for covert industrial preparedness limits the extent to which we can exploit certain dual-use and commercial manufacturing options. It could also compound problems that we already have with getting access to data and to intellectual property rights.

Response

In "agile response," flexible mobilization response should replace graduated mobilization response to deal with the increasingly prevalent con-

cern for short-notice operations. Short-notice deployments can become vulnerable because they require us to rapidly mass in a distant location the units and the supplies essential to decisive victory. Gradualism, politically safer and certainly less traumatic for the economy, may become a luxury that we cannot afford. Management of response time may now be more important than marshaling and husbanding the resources that could improve the odds of success or ensure operational sustainability. To take full advantage of all available resources, military and civilian leaders will have to adjust strategy, campaign planning, and perhaps even tactical decisions to keep safely within the limits imposed on resources by managed warning time, industrial mobilization, and limited response options.

Information Management

Information is the enabling technology for agile operations. Hence the prospect of "information wars" involving command, control, communications, and intelligence (C^3I) creates a new dimension in any potentially hostile environment. The media's role in crisis management and the associated fragility of public opinion must be considered, not just for the broad issues, but also for the details of day-to-day operations. Unless constructively managed within our constitutional framework, national commitment and resolve in a crisis may prove to be an elusive asset. It would not be difficult to design a comprehensive gateway system within the emergency preparedness community on which the virtual organization would be based. Industry is already far out in front of government in many aspects of applying automation technology to solving problems. The Iacocca Institute's developments in agile manufacturing and data exchange systems, already operating within key industrial sectors, are helping us to learn how to use information in new ways.

Conclusion

These concepts provide glimpses of powerful forces at work within the US technology and industrial base. The forces have helped to identify significant emergency preparedness deficiencies and to suggest doctrinal, analytical, and organizational remedies. To profit from change, and to ensure acceptable levels of national security, we need a perspective on national security emergency preparedness that acknowledges the inherent limitations of peacetime production. We need to assess repeatedly and accurately our present response capabilities, to discern trends, and to identify associated resource consequences for policymakers. We need an awareness of options shared with—and already being pursued by—government and industry. We need a more or less permanent process for examining national emergency preparedness to retain freedom of action with constrained military and civilian assets. Success with the four topics examined here—mobilization planning and the industrial base; the requirement to develop and assess resource

preparedness options; the need to remain aware of how the defense technology industrial base is evolving, and the evolving role of the Federal Emergency Management Agency regarding industrial preparedness issues—will take us a long way toward meeting the challenges of managing civil and military emergency response requirements in the years ahead.

Time remains our greatest vulnerability and yet potentially our greatest strength in managing the US defense industrial base. As we become accustomed to living with change, integration of time considerations into management of defense industrial base resources will become the yardstick by which we measure the need for—and the adequacy and affordability of—our industrial preparedness.

NOTES

The author acknowledges contributions to this article by John Brinkerhoff, Dr. James Thomason, Dr. Ivars Gutmanis, and Dr. James Blackwell.

1. John M. Collins, "Military Preparedness: Principles Compared with U.S. Practices," *Congressional Research Service Report for Congress*, 21 January 1994, pp. 27-30.

2. This work reflects a three-year IDA effort with FEMA to make military and civilian industrial analysis methods mutually supportive and to actively engage industry in the assessment process through a series of resource preparedness seminars. See James S. Thomason, "Designing and Assessing National Security Resource Preparedness Options for the Post-Cold War Era," *Institute for Defense Analyses Paper P-2847*, June 1993.

3. The sectors are defined by the Standard Industrial Codes (SICs) widely used by industry and the Department of Commerce which take advantage of the extensive data collected by the Census Bureau. The federal government spends hundreds of millions of dollars each year to collect this data which drives a wide range of assessments and forecasts. In several cases the critical sectors identified, such as aircraft, represent an aggregate of several SICs to capture the business activity of the broad industrial sectors and their critical sub-tiers. The IDA and FEMA models concentrate on the 400-plus sectors that are most important to defense industrial base planners. Dr. Thomason's work captures the most critical sectors as a consequence of anticipated DOD budget activity in response to projected military operations for specific major regional conflicts. Bridge tables or other tracking codes can be used to link the SICs to DOD budget activity.

4. As we learn to exploit fully dual-use industrial base capability and commercial products, industrial planning and business decisions will grow in importance. The inherent loss of control as we shift away from heavy reliance on government owned or controlled production facilities can be offset if we can still keep track of residual capability and production options. It will be essential to have fully compatible measurement standards and benchmarking methods that can support both civilian and military planning and extend into the rapidly growing domain of flexible manufacturing.

5. Data prepared for the draft 1994 *Joint Military Net Assessment* on DOD Budget Authority Trends shows a cumulative real decline from 1985 to 1997 of 41 percent.

6. FEMA has important coordination, assessment, and reporting responsibilities under the National Security Act of 1947, the recently updated Defense Production Act of 1950, and Executive Order 12656, which governs National Security Emergency Preparedness. The all-hazard focus of the current threat environment does not weaken the relevance of these key sources of preparedness guidance.

7. The agile manufacturing initiative was launched by the Iacocca Institute at Lehigh University with DOC and DOD encouragement to enhance inherent American strengths in technology. The initiative moves beyond lean production, just-in-time inventory management, and total quality control, to an even more competitive, customer-oriented approach. After three intense years of effort the program—a dynamic partnership with industry from the start—gained congressional and White House recognition as well as sustained funding. It has been transformed into an industry-led corporation, the Agile Manufacturing Enterprise Forum, with the Iacocca Institute now playing a supporting role. Heavy emphasis is being placed on translating the concept into production cycle and market integration experience that will further refine the process and make its precepts available to a larger segment of US industry including small business. For additional background information see the two-volume report, "The 21st Century Manufacturing Enterprise Strategy," available from the Iacocca Institute.

8. *Machine Design*, 20 February 1992, p. 32.

The Strategic Implications of Industrial Preparedness

JOHN R. BRINKERHOFF

Industrial preparedness means having the capability to produce in a timely manner the additional goods and services needed to support military operations. In effect, industrial preparedness means getting ready for industrial mobilization, which involves providing war materiel to bring military units to wartime readiness and to sustain them in combat. Materiel for readiness consists of end items—planes, tanks, ships—as well as consumables—ammunition, missiles, fuel, food. Materiel for sustainment consists primarily of consumables. The supply of materiel available to military units will be obtained both from stocks purchased and stored before the emergency and any additional stocks manufactured and purchased after it begins. Industrial preparedness seeks to assure that the combination of peacetime stocks and mobilization production will be sufficient to meet the needs of military units during a war.

The role of industrial preparedness in military strategy is anomalous. Prospectively, the role is almost always ignored by military planners, but retrospectively it is agreed that industrial preparedness was either vital for success or instrumental in defeat. Despite ubiquitous slogans (Be Prepared! Semper Paratus!) and folk sayings (An ounce of prevention . . .) exhorting us to pay attention to preparedness, Americans tend to put off preparing until after the need actually has occurred. That reluctance to get ready applies particularly to industrial preparedness and the larger topic of national mobilization.

Industrial mobilization is a major part—but still only a part—of the larger process of national mobilization.[1] In addition to marshaling the industrial capability of the nation to produce war materiel, it is necessary also to mobilize the economy, manpower, government, human services, and the military forces. Thus, industrial preparedness is a part of the capability of the nation to marshal its resources to support military operations—mobilization preparedness.

This article is focused on industrial preparedness, but it is impossible when proposing programs to isolate industrial mobilization and its preparedness aspect from national mobilization and general mobilization preparedness. Thus, while the description is focused, the prescription will take the broader view.

The Outlook for Industrial Preparedness

The outlook for industrial preparedness is grim.

Persuading the American people to support substantial spending for the armed forces in the post-Cold War era is difficult because the time, place, and enemy for the next war cannot be stated with a high degree of certainty. During the Cold War, there was an obvious opponent, and the United States prepared for the greatest threat to its national security, a global war with the Soviet Union. Now we are threatless in specific terms. There is consensus that the world will remain dangerous and full of pitfalls, but there is no general agreement on the kind(s) of wars for which we should prepare. This uncertainty about the threat is not only a planning problem, but a reason for even rational people to lose interest in paying attention to military matters and funding military programs. Thus, there are efforts by Congress and others to reduce military spending because "if there's no threat, there's no need for the money."

If inducing people to understand the necessity for retaining military forces in the post-Cold War era is hard, there is at least some appreciation for having enough military forces to take care of small problems (Somalia) and medium-sized problems (Saddam Hussein). Consequently, arguments over military force structure and personnel strengths tend to be bounded by upper and lower limits of spending, with the lower limit at some finite point above zero. There is substantial support for developing new weapons and modernizing the equipment in the hands of the troops. There is also support for readiness in terms of training and stocks on hand, although the realities of the budgeting process are eroding readiness. Overall, there is support for retaining sizable, albeit smaller, military services capable of dealing with small wars and major regional conflicts.

This limited support for military forces, personnel, and modernization does not extend, however, to measures to promote industrial preparedness. It has been tacitly accepted by many government officials and defense intellectuals that there will never be a need to mobilize again; the argument now is over how fast to eliminate the function from the government. Despite

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the obvious necessity for having weapons and ammunition in sufficient quantities to fight, there is skepticism about even the need for industrial preparedness. Support for industrial preparedness is limited to actions necessary to support current production, modernization, and perhaps some minor surges in output.

The military services themselves do not really subscribe to a substantial program of industrial preparedness. They would rather have a plane or a tank in the hand than two in the plan. The services view an admission that some war materiel can be produced, in time to be useful, after the onset of an emergency as weakening their case for producing and procuring materiel before an emergency occurs. The services fear the view that there is no need to procure materiel whose production can be deferred until mobilization. Since this is exactly the view that OSD and OMB budget examiners will take, those fears are justified. Thus, the military services generally—and the Army in particular—do not favor measures that suggest they can forego having something on hand now against the prospect of producing it during mobilization.

There is something to be said for this viewpoint. The services have learned through bitter experience that the budget examiners will take money provided for peacetime production without funding the corresponding preparedness program. The services believe, rightly, that it does not make sense to defer resources for mobilization unless the necessary industrial preparedness measures are actually taken. Unfortunately, the budgeting game makes it very difficult to achieve a rational balance between what must be procured in peacetime and what can be deferred until mobilization.

Neither does OSD, except for a few preparedness enthusiasts, favor a strong industrial preparedness posture. Environmental and social programs, force structure, personnel strength, and above all modernization have higher priorities than preparedness. When the money is passed out, very little remains for preparedness. Despite assertions that the world is more dangerous, the old attitude that "war will not happen" once again prevails in the Pentagon.

The New Nature of Industrial Preparedness

There is still a need for industrial preparedness. The post-Cold War armed forces are more dependent than ever on their weapons and equipment. High-technology weapons, modern equipment, and soldiers skilled in using and maintaining them are the keys to achieving victory on future battlefields. The United States and its allies must be able to support the projection of combat power from the United States, develop a theater of operations from a bare base, and apply overwhelming combat power to achieve rapid victory, or failing that to sustain combat until the objectives have been achieved.

The new kind of industrial preparedness bears about as much resemblance to the massive mobilization for World War II as do the equipment and tactics of the fighting forces. Things have changed in military technology and

doctrine, and things have to change with respect to industrial preparedness. One thing that has not changed is a lack of resources for peacetime procurement of all the troops, equipment, and supplies needed for a major regional conflict. Some combat power will have to be generated just before or sometime after the onset of the war. The capability to provide the additional resources needs to be carefully planned, with suitable preparations made to shorten the time between anticipation of the need and delivery of the resources to the fighting forces. Compared to the traditional kind of industrial preparedness that characterized World War II and the Cold War, the new kind of industrial preparedness will be smaller, quicker, and more sophisticated.

Smaller

Industrial preparedness will emphasize quality and timeliness rather than quantity. For World War II, the nation was able to turn out massive quantities of relatively simple weapons and equipment in short order. This was possible because the people in charge simply went out and did it. (They didn't know that it was impossible!) During World War II and also the Cold War we simply overwhelmed the enemy with materiel. Our WWII tanks were not as good tank-for-tank as the German tanks, but we had a lot more of them. We turned out hundreds of ships, thousands of airplanes, and millions of trained and armed soldiers to defeat Germany and Japan. We will not have to do that again, which is fortunate because we could not do it again.

Future industrial mobilizations will be more like that for the 1990-91 war with Iraq. During that war, we did surge production of some critical items: boots, uniforms, chemical protective suits, and nerve gas antidotes. We went to commercial sources for off-the-shelf items: food, computers, radios, telephone switches, and global positioning receivers. We accelerated production of Patriot missiles, and we placed several new systems into combat without the prescribed years of testing and tinkering. We used host nation support and contractors extensively in the theater of operations to provide transportation, housing, food, and other essential supporting services. The mobilization for this war was large in absolute terms, but by comparison with that for World War II or the Cold War, it was relatively small.

Another factor that affected resource support during the war with Iraq is that US forces benefited considerably from the mobilization that had occurred in the 1980s for the final Cold War confrontation with the Evil Empire. By 1990, the bins and depots of the military services were full of parts, munitions, consumables, and supplies procured to sustain the initial phase of the war with the Soviet Union. These supplies, in a reprise of the Korean War that fed off stocks left over from WWII, were used against Iraq instead. Somewhat accidentally, we had pre-mobilized for the war with Iraq.

For a future war—even a major regional conflict—the fighting will have to be carried out by forces in being, sustained by resources on hand. As

"The new kind of industrial preparedness will be smaller, quicker, and more sophisticated."

noted below, there will be little time to provide additional resources and no time for forming additional forces. Industrial mobilization for a major regional conflict (or two) will be small relative to the national economy but it will be essential for military success.

Quicker

Unlike the industrial mobilization for World War II, for which there was ample strategic warning (the war having started several years before Pearl Harbor was attacked), or the Cold War, for which there was an obvious threat, there is liable to be little warning of a major regional conflict. Future aspirants for the role of regional hegemon are unlikely to copy Saddam Hussein by giving the United States six months in which to assemble a coalition, train forces, and surge resources. Indeed, clever potential regional aggressors will seek to avoid US involvement by themselves adopting the US doctrine of winning fast with overwhelming force, leaving the United States with a military fait accompli to be ratified by hesitant diplomacy. (The prototype of this strategy for emasculating the US military services is being developed now by the Serbs in the Balkans.)

The additional resources to be supplied, either to compensate for poor peacetime condition of military units or to sustain them in combat, have to be provided quickly. This means that industrial mobilization will have to be planned more carefully and in greater detail and specificity than before thought necessary or possible. There will be insufficient time (as there was not enough time during Desert Shield) for the routine, time-consuming procurement process. There will be insufficient time to figure out what is needed after the shortage becomes apparent. There will be insufficient time to get the permits and build the plants to provide essential items (the so-called "war stopper" items) that "should have been delivered yesterday." All of this planning and preparation must be done in advance.

More Sophisticated

Industrial mobilization will be more sophisticated. This means not just more complicated, which it surely will be; it will also have to be done more cleverly to avoid the vices of previous mammoth mobilizations. Future industrial mobilizations will have to be done with minimal—or at least imperceptible—adverse effects on the civilian economy. Halting the produc-

tion of automobiles or imposing economic controls, as was done in the mobilization for World War II, will not be tolerated today. Nor would this kind of interference be a good idea: crippling our economy for a regional triumph could be a new kind of Pyrrhic victory.

The sophistication of the materiel to be produced is another factor requiring mobilization to be more sophisticated. It will not be possible to lease a bean field, build a plant, and turn out light bombers in a few months.[2] The weapons and munitions to be produced for a future war are more complicated, the price of increased effectiveness. This means that more care has to be taken in the arrangements for surge production, especially when the surge entails conversion of plants to military production. The technical availability of dual-capacity manufacturers or "agile" manufacturing techniques[3] does not make the capability available automatically or quickly unless there has been considerable planning followed by iron-clad contingency contracts, both of which cost money in peacetime.

The manufacturing process is also more difficult, the price of increased constraints on industrial production. In previous mobilizations, the need to support the national war effort (even in the Cold War) made it possible to ignore some of the environmental and social implications of defense production. No longer. Environmental constraints on manufacturers will continue in force during mobilization; indeed, during mobilization tougher standards may well be imposed on manufacturers of war materiel. Opposition by public groups will be commonplace, both for general reasons (opposition to the war) and specific reasons (not in my backyard). Industrial preparedness has to take these constraints into account and prepare the government to deal with them when the mobilization occurs.

A future industrial mobilization will be smaller, quicker, and more sophisticated than earlier mobilizations, but it will also require the same hard work, dedicated effort, flexibility, and ingenuity that have characterized American industrial activity for over two centuries. What is new is that a future industrial mobilization cannot be accomplished on an impromptu, reactive basis but will have to be based on a good mobilization plan. Future mobilizations will need better planning and preparation than the brute force mobilizations of the past.

Industrial Mobilization Planning Cases

There are three basic kinds of military operations for which industrial preparedness is required in the post-Cold War era: low-intensity conflict, major regional conflicts, and global war.[4] Each of these kinds of military operations can occur in a wide variety of locations and circumstances against a wide variety of enemies. While some conflicts are more probable than others at the moment, the likelihood of specific conflicts changes over time, and the unexpected event has a nasty habit of happening. It is useful,

therefore, to consider each of these kinds of possible military operations as generic planning cases, against which generic industrial preparedness plans can be developed.

Low-Intensity Conflict

Sustainment of low-intensity conflict will draw primarily on existing stocks of equipment, munitions, consumables, and supplies. There may be some surge requirements for specific items, but these will be small in demand and specialized in nature. There also may be some demand for urgent development of special items for a particular environment or threat. If we maintain the readiness of special operations forces and other units likely to be involved in this form of warfare, there should be little need for industrial mobilization. In the event that full readiness is not supported during peacetime, some industrial mobilization would be needed and should be planned for.

Major Regional Conflicts

The most serious threat postulated for the post-Cold War era is a major regional conflict involving the United States and regional coalition partners in conventional war against a regional power or coalition. The national security strategy that served as the basis for the DOD Bottom-Up Review said that the United States should have the capability to fight two of these wars concurrently, and the DOD force structure and budget are supposedly designed to carry out this strategy.

Industrial mobilization to support a major regional war will serve three purposes:

- fill equipment shortages in existing active and reserve units caused by peacetime underfunding of the force structure
- provide munitions, consumables, and supplies to augment stocks on hand
- produce additional or new versions of major weapons, munitions, and equipment to modernize (perhaps by re-equipping in the field as was done in the war with Iraq) and replace losses

Global War

Fortunately, the end of the Cold War has diminished the probability of global war almost to zero. At present there is no nation that can pose a threat to the survival of the United States or even hope to win a war against the United States. This may not always be the case; some nations have the resources to pose a significant threat to the United States in the future should they perceive the need to do so. China's economic and military resources place her in this group; Germany, and even a rejuvenated Russia, could be members as well. Japan could muster great military power, but basic economic vulnerabilities—as was the case in World War II—make Japan an unlikely candidate. Others, alone or in coalitions, could challenge the United States during the next 20 to 50 years.

The strategic response to the rise of a major global threat would likely be an increase in the military power of the United States. Nonmilitary measures such as diplomacy, economic competition, and the formation of alliances with other nations would occur. At some stage in the perception of the threat, however, a decision would be made to increase the size and strength of our own military services. The initial response might be to increase the readiness of existing forces by raising unit strengths, filling out unit equipment authorizations, increasing training, and stocking depots with supplies and consumables. At some stage in the buildup, additional forces would be created, and new ships, air wings, divisions, and support units would be formed, staffed, equipped, and trained.[5]

Industrial mobilization to support such a defense buildup would emphasize production of substantial numbers of modern weapons and equipment items that incorporate the latest in technology, supported with adequate parts, consumables, and supplies. This kind of industrial mobilization would be similar to that which was undertaken to sustain the high level of military power the United States had during the Cold War. It would resemble closely the buildup of military power that occurred during the administration of President Reagan. This kind of industrial mobilization could occur without detailed planning, but it would be more efficient and rapid if some thought were given ahead of time to the needs of the services under those conditions. Consideration of the size and shape of major additions to US military power should be included in preparedness planning.

A Program for Industrial Preparedness

Industrial preparedness of the appropriate kind will not occur to the degree required without a national program promulgated by the President. The eight steps below suggest a program to assure that industrial preparedness is considered in the context of mobilization preparedness.

1. Include explicit consideration of national mobilization and industrial preparedness in the National Security Strategy.

2. Designate a National Preparedness Agency to be in charge of planning, preparedness, and coordination of national and industrial mobilization. The Federal Emergency Management Agency (FEMA) is the agency currently charged by law and executive order with preparedness and coordination for national mobilization. The Department of Commerce is the lead agency for industrial mobilization. If FEMA is unwilling or unable to accomplish the national mobilization mission, it should be reassigned to another federal agency (other than the Department of Defense).[6]

3. Direct the designated National Preparedness Agency to develop a National Mobilization Annex to the National Security Strategy. This annex should provide guidance and procedures to all federal agencies on how to plan and prepare for mobilization consistent with the National Security Strategy.

Mobilization planning cases would be specified. Industrial mobilization would be a major part of the annex.

4. Prepare a National Mobilization Plan. The designated National Preparedness Agency should coordinate the preparation by all federal departments and agencies of a plan to be updated every other year. The biennial programming and budgeting cycle for DOD is a good model for mobilization planning. Preparing a Mobilization Plan every other year is a good compromise between workload and timeliness. The first year of the two-year cycle would be spent preparing the plan, and the second year would be spent exercising and evaluating it. The plan would address the mobilization planning cases of the Mobilization Annex and establish authorities, relationships, and processes for responding to them. As with all general plans, the principal product will be the experience gained from the planning process. The plan itself, however, should be good enough to serve as the basis for modification in the event of an actual mobilization.

5. Conduct a review of the National Mobilization Plan biennially during the year for which no plan update is required. The President should direct a review of the National Mobilization Plan to be conducted jointly by the National Preparedness Agency (the provider) and the Department of Defense (the customer). After approval by the White House, the review will provide the basis for the next edition of the National Mobilization Plan.

6. Conduct a national mobilization command post exercise every other year. The National Preparedness Agency should plan and conduct a government-wide exercise to rehearse the linkages, authorities, and general actions that would be required to mobilize the nation for one or more of the particular planning cases.

7. Invest a modest sum in planning, exercises, data bases, and other activities needed to support the mobilization planning effort. Some of this money should be appropriated to the National Preparedness Agency for allocation to the civil agencies. This scheme of central funding for preparedness will assure that the civil agencies do their share in this enterprise—which, based on previous experience, is likely to be of low priority in their own funding plans. As the interested beneficiary of the preparedness program, DOD would provide preparedness funds from its own budget.

8. Invest additional funds for specific preparedness measures. We should fund specific preparedness measures considered to be worthwhile hedges against uncertainty and potential time-savers in a mobilization. These preparedness projects should be funded by the responsible agencies, by the Defense Preparedness Act Fund established by Congress for this purpose, or by the National Preparedness Agency.

Implementing these eight steps can, at relatively low cost considering the risk, help to assure that the nation will be prepared to support the wars that are certain to occur.

Strategy and Industrial Preparedness

Strategy needs to be informed by resource realities. Strategy without consideration of feasibility is merely a pipe dream doomed to failure when implemented. Strategy has to do with the global allocation of forces, and mobilization has to do with the marshaling of resources to support those forces. The former requires the latter. Mobilization will be needed, and the time to prepare for mobilization is before it is needed instead of after.

Mobilization preparedness is not popular, but it is necessary. Those who discount the possibility of future mobilization and thus the need for mobilization preparedness are unduly optimistic about human nature. Just as our certain knowledge that floods and hurricanes will continue to cause natural disasters is based on extrapolation from the historical record, a study of history strongly suggests that war will occur again. War in various forms is, in fact, occurring constantly over the globe—more so after the end of the Cold War than during that period of mutual restraint.

With war comes mobilization, whether budget examiners, government officials, or the military services like it or not. The United States cannot fight long or well without the high-tech equivalents of beans, bullets, and black oil; if we haven't enough in our stocks to outlast the enemy, we had better have plans to get more in a hurry when we need it. This certitude deserves more attention than it is getting. Otherwise we will be surprised again and made to pay heavily for having had neither the wit nor the will to prepare.

NOTES

1. The military services, and to a lesser extent the Office of the Secretary of Defense, use the term "mobilization" in the narrow sense of calling up the reserve components. This practice has the unfortunate effect of limiting appreciation by military personnel of the broader implications of industrial mobilization as part of national mobilization.

2. The mobilization for World War II was neither as simple nor as easy as this sentence implies. For a marvelous account of the turbulence and innovation of that process as it applied to the Army, see Geoffrey Perret, *There's A War to be Won: The United States Army in World War II* (New York: Random House, 1991). This is one of the few history books that covers both the military operations and the equipment and resources that supported them.

3. On the topic of agility, see the article by Mike Austin, "Managing the US Defense Industrial Base: A Strategic Imperative," in this issue of *Parameters*, 24 (Summer 1994), 27-37.

4. The 1993 edition of FM 100-5, *Operations*, replaces the term "low-intensity conflict" (LIC) with the term "operations other than war" (OOTW). The new term includes a wide array of military operations, from domestic disaster response to peacekeeping to nation assistance to the kinds of armed conflicts (e.g., counterterrorism and counterinsurgency) formerly identified as LIC. For industrial preparedness, it is inappropriate to lump together into a single category operations in which combat is both unlikely and unintended (OOTW less LIC) and those in which combat is certain (LIC). Peacetime operations without combat can be supported from stocks on hand or obtained through the routine procurement process and will not require industrial preparedness measures that pay off when fighting leads to consumption of munitions and equipment losses that have to be replaced urgently.

5. This was the idea behind "Reconstitution," one of four principal pillars of President Bush's National Security Strategy. Reconstitution sank without a trace after a few months, torpedoed primarily by the military services and those officials in OSD charged with industrial preparedness.

6. For the past 47 years, a civil agency has been responsible for the mobilization function. DOD—a military agency—has not been given this mission because of a conflict of interest between its own demands as the major customer and the demands of the civil economy. Ten Presidents (from Roosevelt to Bush) supported the policy of civil supremacy in this function.

Assessing Resource Options for National Security Preparedness

JAMES S. THOMASON

The dissolution of the Soviet Union, and the attendant loss of what had been the one truly global national security threat over the last half century, have profoundly altered US military force structure requirements and DOD purchasing requirements. This evolution is reflected in the department's Bottom-Up Review, a major analysis of post-Cold War US national security requirements. The force structure levels that DOD recommends in that assessment as a prudent hedge against "new dangers" are smaller than those made by the Bush Administration several years ago. Related to these force reductions are significant declines in DOD purchases of all kinds of goods and services—from rations to remotely piloted vehicles, from ammunition to anti-submarine warfare equipment.

The end of the Cold War has produced many hopeful signs and opportunities for constructive, peaceful change in international security. While some observers argue that the Clinton Administration's force structure and budget recommendations go too far, others argue that they don't go nearly far enough. Almost all agree, however, that the nation needs to pay some attention to US abilities to bolster defense assets—since history suggests that at some point the security environment could again take a significant turn for the worse. Careful assessments of a spectrum of potential threats, and efforts to devise and monitor sensible ways to address them, remain crucial to the national security and economic well-being of the United States. Given the smaller active US force structure and the shrinking defense industrial base, regular assessments may be even more important than before.

While significant concerns have arisen in the Congress, the executive branch, and the media about the ability of the US industrial and technology base to adequately support the national security strategy in the post-Cold War era, there is little consensus as to just what kind of attention is needed. This article outlines an analytic framework designed to address these concerns systematically. The process is illustrated here through initial assessments of two notional cases. These particular cases derive from a family of planning scenarios in the first post-Cold War Joint Military Net Assessment published by the Joint Chiefs of Staff, but are similar to scenarios examined in DOD's Bottom-Up Review. Many other specific cases can and should be assessed through the process proposed here.

The first part of this article outlines the process. The second part depicts the two planning cases, illustrating them with an industry-level analysis. The third part suggests how this process could be employed in a constructive partnership between the executive and legislative branches of the federal government.

Regular assessments of the US industrial and technology base can help ensure that preparations for potential national security problems are undertaken as far in advance as possible. Such assessments can also help to bring leading-edge military technology to bear on potential adversaries in the least expensive way, potentially reducing US casualties in a conflict. Periodic assessments would implement the 1992 revisions of the Defense Production Act and the FY93 Defense Authorization Act, which together significantly alter the national security resource preparedness planning and reporting process.

Analyses of the type presented here can—and should—form the core of a repository of industrial readiness assessments. Applied across the spectrum of national security preparedness planning cases and updated and reissued every year, the analyses could in fact become the basis for such a repository. Without this kind of disciplined approach, individual analyses may not be used to full advantage or may be shelved and forgotten altogether.

A Framework for Graduated Response Planning

A five-step framework for graduated response assessment and planning is depicted in Figure 1 on page 50; it defines a straightforward problem-solving sequence. The first step identifies a potential planning crisis or a natural disaster. Step 2 estimates the additional assets known or believed to

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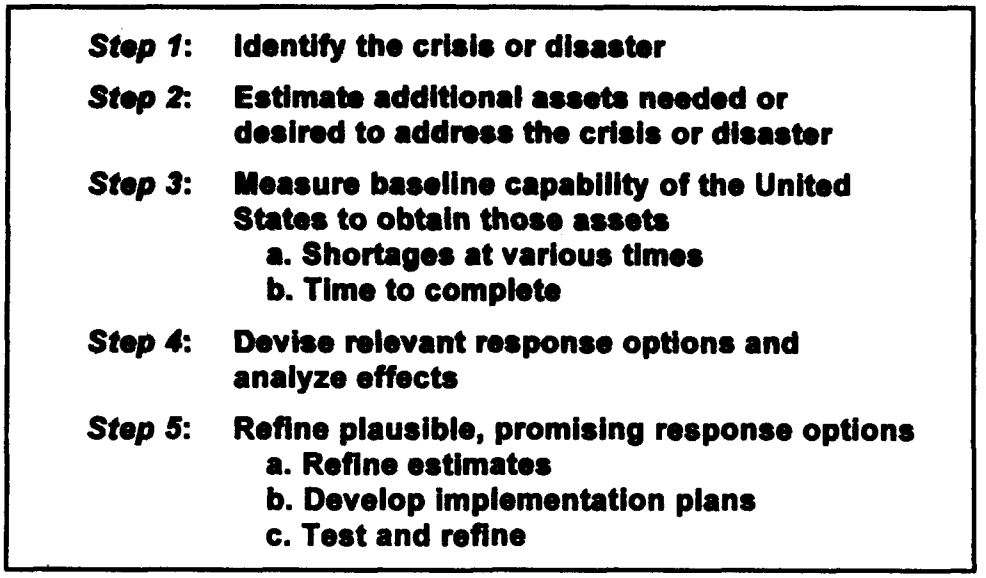

Figure 1. Five-Step Framework for Graduated Response Planning

be needed to address the problem. Step 3 measures the ability of the United States to obtain these assets under an agreed upon set of planning assumptions and conditions. Step 4 analyzes alternative resource preparedness options. Step 5 refines and tests available options, focusing on promising strategies and options discovered earlier.

A process for assessing the capacity of US industry to produce defense-related materiel would:

- provide regular estimates of how long it would take the US defense industrial base to produce various additional defense items, under varying production priorities and financial incentives to producers
- estimate integrated readiness and sustainability requirements for key military items, including spares, ammunition, and soldier support items
- incorporate trade-off assessments of the feasibility and peacetime costs of different ways to obtain critical materiel items; examine various warning assumptions as well as battlefield payoffs of alternative ways to spend peacetime budget dollars
- suggest guidelines for trade-off analyses, such as when one service's sustainability "surpluses" of an item (e.g., a missile) may be used to offset that (or another) service's sustainability "shortfalls" of closely related items

Graduated response planning, properly conceived, includes but is not limited to a set of policy options for a particular crisis or even for a set

of potential crises. As a planning and assessment process, it would focus the attention of planners and decisionmakers on:

- the time really required to bring additional resources to bear in a security crisis or other emergency
- possible early, relatively low cost "hedging" options that could significantly reduce the time now required to make those additional resources available
- the importance of developing pre-crisis inventories of assets that cannot plausibly be obtained during a crisis

Illustrating the Framework

The five-step assessment process is illustrated here using macroeconomic simulations of two planning cases. In each case, supply and demand conditions are compared with industry-level benchmark projections, and a number of response options are compared. One great advantage of beginning the assessments at the industry level of analysis is that scenario demands can be compared with potential production possibilities at all tiers or levels of the industrial base, industry by industry. No other analytic tool available today permits this comprehensive look at the planning problem. In the full planning process envisioned, these initial industry-level analyses would be used to identify and define potentially widespread lower-tier problems in manufacturing and services. Analyses by materiel item and manufacturing firm(s) would then address any problems identified at the macroeconomic level.

Case One Description

Case One is defined by four significant assumptions. The first is that the conflict assumed the form of a protracted "Son-of-Desert Storm," a four-month contingency in Southwest Asia; the scenario is based on unclassified guidance from a recent Joint Military Net Assessment. This case assumes that several US Army divisions, Air Force air wings, and carrier battle groups, as well as a Marine Expeditionary Force, have deployed to the Persian Gulf and engaged in intense conflict (with associated attrition) with Iraqi forces. The second assumption is that the conflict has been successfully concluded by the United States and its allies. The third is that the specific planning task now at hand is to replenish within one year all US materiel and consumable inventories lost or expended during the four-month conflict.[1] The fourth assumption is that losses will be replaced without interfering with normal peacetime production of goods and services.

With these assumptions satisfying Step 1 in the planning process, Step 2 involves estimating the additional assets necessary or believed to be useful for addressing the planning crisis. Step 3 involves measuring baseline capabilities. This includes several substeps: translating the quantities of items projected to have been expended or lost into a set of plausible demands on

US materiel production capacities, adding to them projected baseline military and civilian demands during the recovery period, comparing them against the likely peacetime production capacity of the United States (coupled with normal levels of projected US imports) during the recovery period following the hypothetical conflict, and gauging the magnitude of any possible replenishment or recovery problems under the assumed baseline recovery conditions. Step 4 then entails designing potential resource preparedness options that the United States might use to alleviate potential problems identified at Step 3. Step 5 has not yet been implemented with respect to this planning case, but several promising options have in fact been identified in Step 4. Some options could be evaluated in subsequent assessments and in DOD tests, exercises, and periodic wargames. This article analyzes assessments for this case to date and describes several response options.

Case One Results

Key results of the analyses conducted at Steps 3 and 4 for Case One are presented here. Results of four response options are summarized; each option differs from the others in terms of the assumptions it makes about industrial recovery and the extent of government intervention in the recovery process.

Response Option 1: Baseline Assumptions.[2] Figure 2 lists the 15 US industrial sectors likely to experience significant difficulties meeting Case One demands within one year under baseline assumptions.[3] The table also lists representative firms by sector.

Sector	Representative US Firms
Ammunition	Olin, Hercules, Thiokol
Plating/Polishing Eq.	Uglisis, P.L.S. Industries, Precision Galvanizing
Engineering Instr.	Kodak, Allied Signal
Control Eq.	Allied Signal, Honeywell, Johnson Controls
Computers	IBM, Digital Equipment, Unisys, Hewlett Packard
Aluminum	Aluminum Co. of America (ALCOA), Reynolds
Communications Eq.	GTE, AT&T, ITT, Motorola
Tires	Goodyear, Goodrich
Oil Products	Exxon, Mobil, Texaco, Shell, ARCO
Machine Tools	Treblig, Phelps Tool & Die, Aerosmith Tool & Die
Steel	Bethlehem Steel, Inland Steel, Armco, USX
Aircraft	McDonnell Douglas, Boeing, General Dynamics
Semiconductors	Harris, DEC, Advanced Micro, Rockwell, TI
Electronics	GE, Westinghouse, Motorola, TRW, TI, Honeywell
Vehicles	General Dynamics, GM, Ford, Chrysler, Mack

Figure 2. Representative US Firms in 15 Industrial Sectors with Recovery Output Shortages at One Year in Case One

Baseline assumptions used by the models are summarized as follows:

- Most economic activity in the United States continues at normal or near normal levels during the recovery.
  - peacetime operating capacity production levels
  - normal civilian demands and projected military peacetime demands
  - normal imports and exports
- Defense inventory drawdowns resulting from the Case One conflict are to be replenished within one year of the end of the hypothetical conflict.

Figure 3 shows how much more output the 15 US economic sectors would still need to produce 12 months after the conclusion of hostilities to complete the recovery. The largest remaining shortages occur in the oil products, communication equipment, and computer products sectors. But all 15 sectors in Figure 3 show shortfalls of at least $1 billion (1988$) in total output.[4] To approximate current year (1994) dollars, multiply the estimates by 1.4.

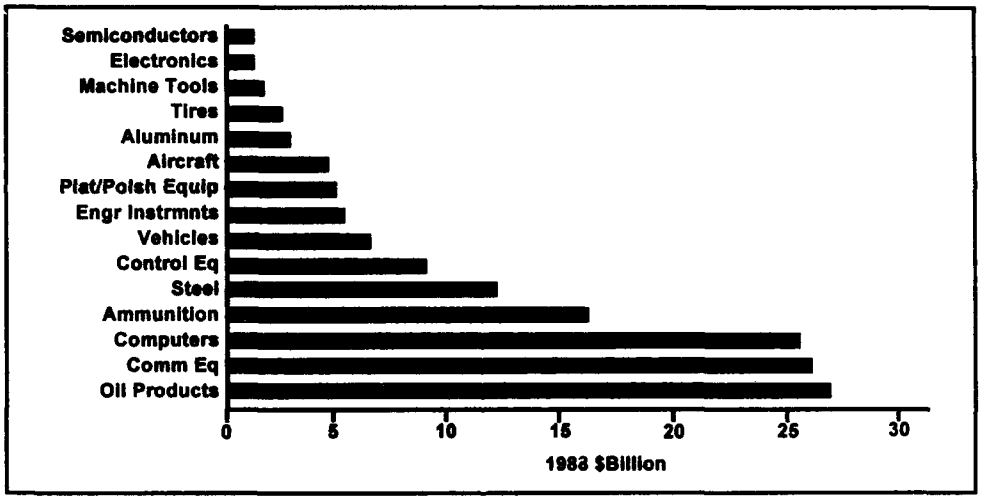

Figure 3. Case One Recovery Output Shortages at One Year, Baseline Assumptions

Figure 4, on page 54, compares output backlog after one year, shown in Figure 3, with current annual peacetime operating capacity in each sector. Note that some sectors showing large backlogs in Figure 3 actually have peacetime capacities so large that backlogs could be eliminated in a few months. Yet seven major US industrial sectors still display replenishment shortages equal to at least three months' normal production capacity: ammunition, plating and polishing equipment, engineering instruments, control equipment, computers, aluminum, and communication equipment.[5] The most notable, ammunition, shows a backlog greater than the annual peacetime operating capacity of the industry.

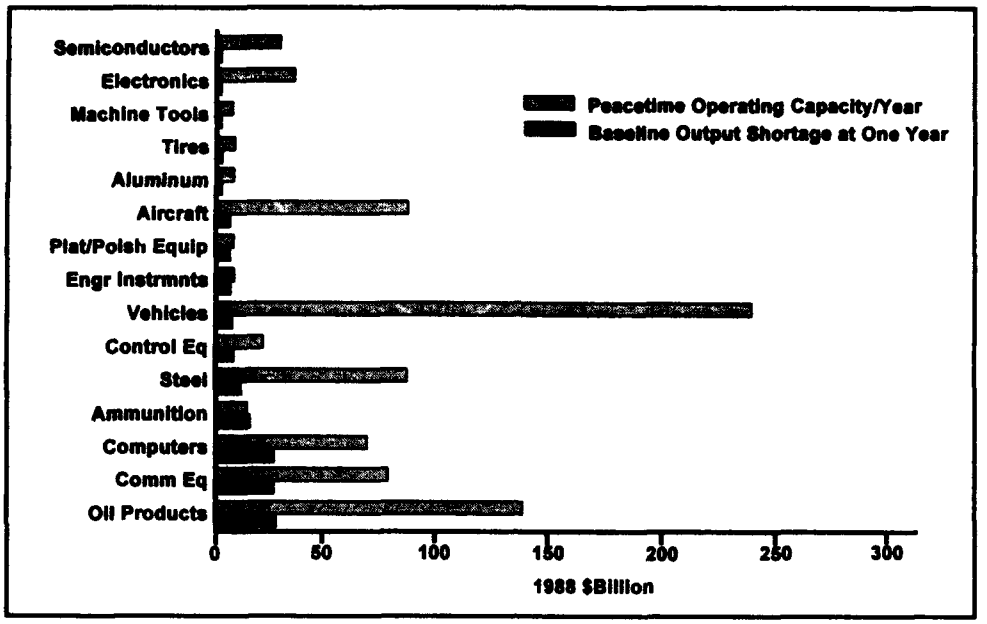

Figure 4. Case One Recovery Output Shortages at One Year Under Baseline Assumptions and Peacetime Operating Capacity

These seven sectors are more prominently displayed in Figure 5, on page 55; they are the first seven industries, reading from bottom to top. In this display, backlogs at the one-year mark—indicated as "baseline output shortage"—are shown as a percentage of a year's peacetime output capacity of the industry. This chart will also serve to explore various other assumptions about US industrial processes during a recovery from one major regional contingency. The increasing levels of government intervention in the process are described below as Options 2, 3, and 4.

For these seven industries, shortages range from over 100 percent, for ammunition, down to about 30 percent for communication equipment.

The estimates indicate the time required to replenish these military assets if the peacetime capacity of the given sector could be devoted fully to this task. Under this assumption, it would take more than another year of production to overcome the residual ammunition shortage, nine more months' production from two sectors—US plating and polishing equipment, and engineering instruments—another six months' production from the control equipment industry, and three to five months' additional production each from the computer, aluminum, and communication equipment sectors.

Response Option 2: Full Imports. Importing more goods during the recovery period could help a lot, especially with aluminum. Full imports combined with US domestic production might eliminate the backlog in that sector within the first year.[6] This option could also assist significantly in

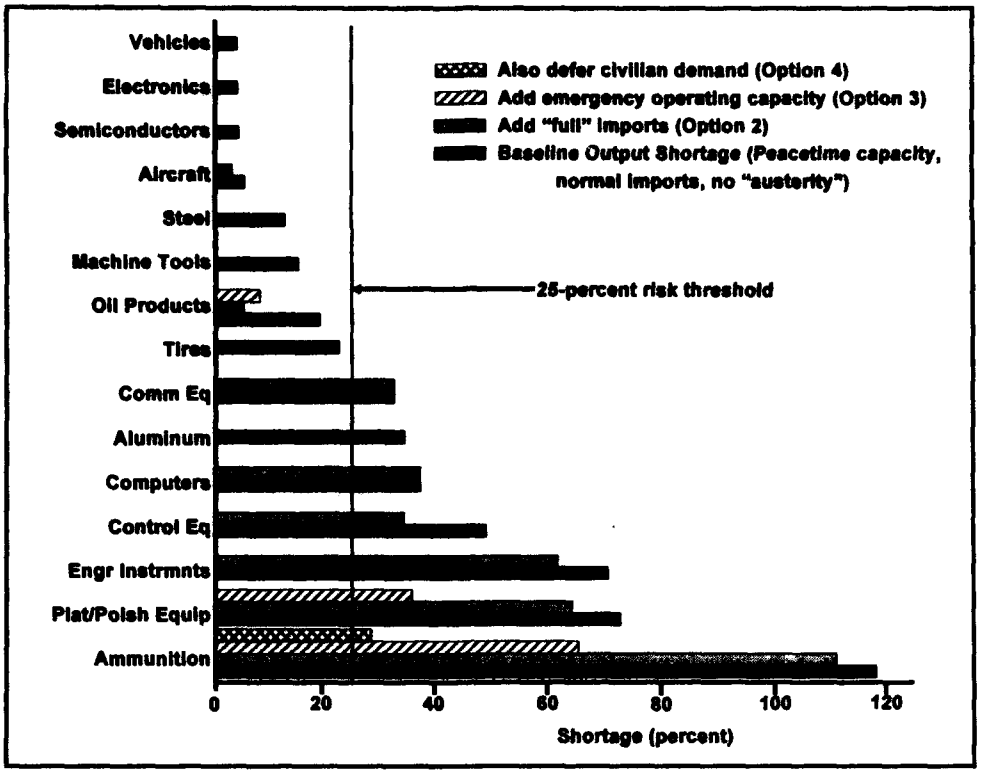

Figure 5. Case One Baseline Recovery Shortages at One Year and Effects of Selected Options (shortages as a percentage of sector 12-month peacetime capacity)

ammunition, control equipment, and engineering instruments. But in six of seven industries it could not reduce shortages below the risk threshold of three months' production capacity.

Response Option 3: Full Imports and Use of US Emergency Operating Capacity. This option assumes that the estimated emergency operating capacity (EOC) of each of these sectors could be used in addition to full imports during the first year of the hypothetical recovery. This situation is set in contrast to the previous limit of peacetime operating capacity in each sector. With this change, residual shortages at the one-year mark would be reduced dramatically. They would drop below one-quarter of a year's production capacity in all but two industrial sectors (ammunition, and plating and polishing).

Response Option 4: Full Imports, US Emergency Operating Capacity, and Use of Industrial Capacity Normally Used by the Civilian Sector. In addition to full imports and the use of emergency operating capacity, this option involves deferring some civil sector demands for output from the 15 industrial sectors until after the recovery. With actions of this kind, output

shortages could conceivably be eliminated by the one-year mark in all 15 sectors except one—ammunition. Note that even the residual ammunition shortage at the one-year mark is here only half what it was under Option 3.

Case One Discussion

This analysis suggests that we can recover from this case relatively quickly—assuming that the response options defined here could be implemented on this schedule. Without considerable planning, however, that would not be a safe conclusion. The assumed production capacities are not likely to be usable in a military recovery. Careful planning and testing would be required to use even the available capacities. Thus, it could be useful to conduct detailed assessments of the top five US firms in each of the 15 sectors identified through this case.[7] Insight into our ability to recover from Case One will become available only when the participants in the resource preparedness process have developed the plans, procedures, and contracts to do so. Accordingly, graduated response planning should be guided by continuing assessments of national industrial capability and responsiveness.

Analysis to refine initial options such as those described here would occur at Step 5 of the process. At that step, planned recovery efforts might include exploiting functionally similar production capacity to overcome specific shortages within the proposed recovery time limit. Precision guided munitions, for example, might be produced instead of some of the ammunition replenishment requirements initially identified in Case One. And items and systems not yet in full production could be accelerated into production after careful consideration of how to do it safely. The analytical processes anticipated by this concept would be continuous and iterative; solutions would always be tentative, useful only until the next, improved round of analysis.

Case Two Description

The second case presents a substantially more demanding national security planning crisis than Case One. Here the United States has confronted and successfully resolved two concurrent, major regional crises—the Case One scenario just discussed, and a second conflict in which the United States has assisted the Republic of South Korea in defending itself after a conventional attack by North Korea.

Case Two baseline planning assumptions are identical to those used in Case One: assets will be replenished within a year of the end of the conflict(s); US industries will be able to operate at up to peacetime operating capacities; the President's budget and economic projections (including imports) will prevail; and the United States will try to replace conflict asset losses while producing goods and services to meet normal projected civil and peacetime government spending targets. One assumption—that the United States has decided to replenish all of the materiel assets it used or lost in both of the hypothetical concurrent conflicts[8]—has been added to Case Two.

Case Two Results and Discussion

Figure 6 shows baseline estimates of the percentage of each sector's annual peacetime operating capacity output left to produce after a year of recovery for both cases. Baseline shortages from Case One (see Figure 5) are shown for perspective.

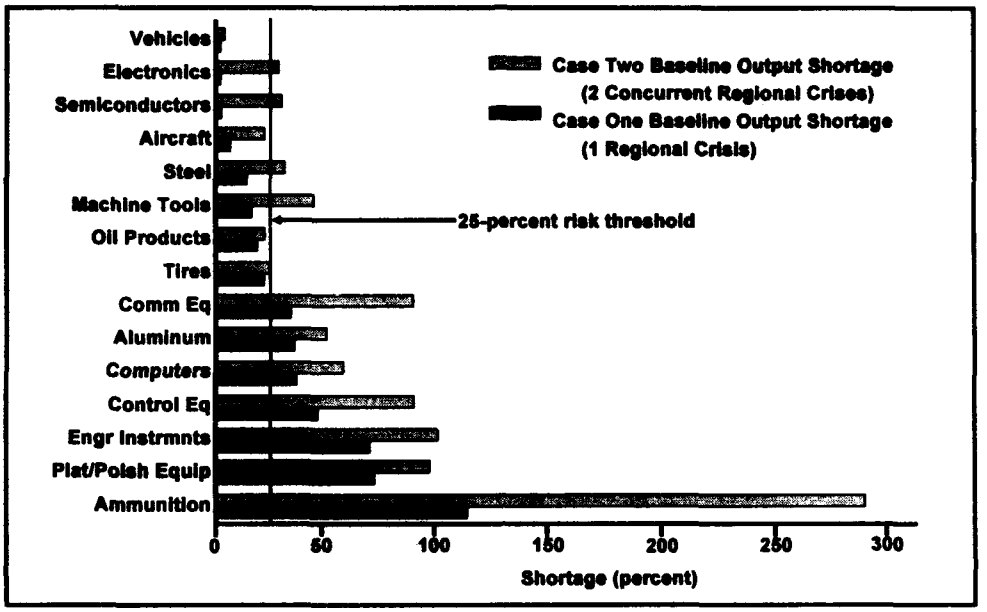

Figure 6. Case One and Case Two Baseline Recovery Shortages at One Year
(shortages as a percentage of sector 12-month peacetime capacity)

In Case Two, 12 of the 15 sectors equal or exceed our benchmark risk threshold. In fact, seven of the 15 sectors—compared to three of 15 sectors in Case One—exhibit shortages of two or more quarters.

Figure 7 on page 58 shows how the same alternative graduated response options used in Case One could help alleviate shortfalls. Options depicted for Case Two are directly comparable to those discussed for Case One above. The figure shows that the full imports option in Case Two could potentially reduce from 12 to six the number of sectors exceeding the 25-percent risk threshold. Employing emergency operating capacity as well as full imports in the first recovery year may reduce the number of sectors exceeding the threshold to three: ammunition, plating and polishing equipment, and communication equipment. Deferring civilian demands in addition to the full imports and EOC options during this first recovery year could eliminate the residual production shortages in the plating and polishing as well as in the communication equipment industries. The conditions that define Option 4 could also reduce residual shortages in the ammunition sector, although not below the risk threshold.

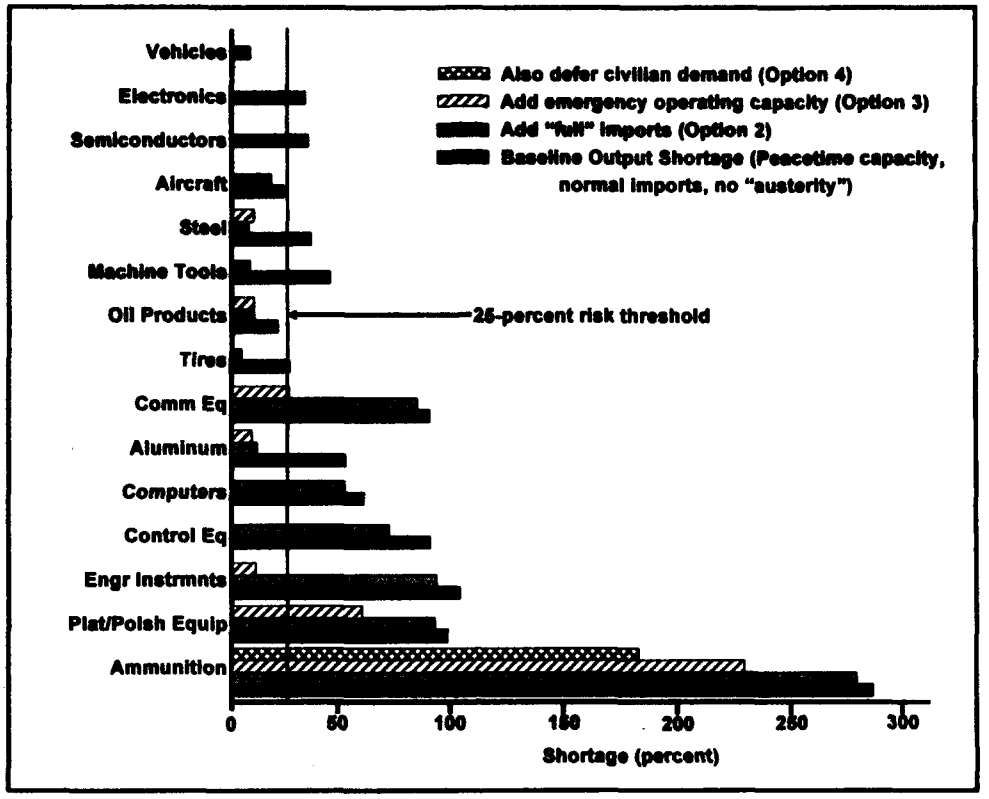

Figure 7. Case Two Baseline Recovery Shortages at One Year and Effects of Selected Options (shortages as a percentage of sector 12-month peacetime capacity)

Toward a Continuous Graduated Response Assessment Process

A continuous graduated response assessment process would examine the supply and the demand sides of resource preparedness options systematically and in increasing detail in search of promising options and particularly salient planning cases. Both the executive and legislative branches have taken important steps in this direction over the last few years. A heightened awareness of the need for national resource preparedness planning has been reflected in recently enacted legislation (the 1992 Defense Production Act and the FY93 Defense Authorization Act). Since the spring of 1992, the Office of the Secretary of Defense (OSD) has been using a new criterion to identify truly essential defense production lines and manufacturing processes. OSD now believes that manufacturing lines and processes should be preserved only when additional production output could plausibly be needed faster than we could restart them or build new, identical or functionally equivalent capabilities.[9] A refreshing new perspective, this initiative seeks to

minimize accidental as well as intentional biases in the results of any examination of industrial capacity.

But there is still considerably more to do. For instance, there may be benefits to maintaining and perhaps even improving production acceleration capabilities for important spares and consumables in the post-Cold War security environment. The United States ought to develop and assess a range of possible mixes of inventories, domestic production capabilities, and collaborative production schemes with key friends and allies. The Joint Staff has recently indicated its concern that this issue be addressed on a coherent basis by OSD. One good initiative in this area is the recently completed Integrated Army Mobilization Study.[10] Unfortunately, the results of this effort have not been widely disseminated to date.

The federal government has a range of options for developing a credible process to assess the capability of the US industrial and technology base to respond in a timely manner to a variety of national security challenges. Getting good information in this area depends first on knowing the right kinds of questions to ask and, second, on knowing how to interpret the answers. The process proposed in this article would draw continuously on a range of micro-level analytic techniques and databases to double check and refine macro-level assessments of the sort presented here.

A good prototype for an effective intergovernmental process, one that works back and forth from the macro to the micro level of assessment, is the current National Defense Stockpile planning process. In place now, this process uses planning groups that include officials from the Departments of Defense, Commerce, Labor, Interior, and State as well as the Federal Emergency Management Agency; integrates over 70 separate databases; uses three interrelated computer modules; and draws together policy inputs from departments and agencies throughout the federal government. For details on how the process works, see the DOD *1993 Report to the Congress on National Defense Stockpile Requirements.*

Some observers may see our illustrative cases—a protracted son-of-Desert Storm and concurrent regional crises—as too remote to warrant extensive planning and use of limited resources. But developing a credible assessment process for potential national security resource problems, regardless of perceptions of probability, is a crucial task if the United States is to remain a strong world leader. The United States must understand how to employ, sustain, and replenish the existing military force in a number of widely divergent threat situations. Managing and reducing the associated risk are essential elements of our national security strategy. The country cannot and should not be called upon to do everything, but it can—and must—lead, both in conducting assessments of a whole range of potential problems and in formulating and implementing plans to address them should they arise.

NOTES

The author would like to express his appreciation to several individuals for their helpful comments on earlier drafts of this article, most notably Mike Austin, Peter Brooks, Doug Scott, Joe Muckerman, Paul Halpern, Herschel Kanter, Dave Graham, and Fred Breaux.

1. The Requirements Module of the JIMPP Force Mobilization Model was used to prepare these estimates. The module estimates the cost to replace these assets from a given scenario, by major budget category. For Case One, the recovery budget estimates for DOD in the following key categories were as follows (in $88Bs): operations and maintenance ($36), aircraft ($42), tactical missiles ($37), weapons and tracked combat vehicles (WTCV) ($4), ships ($7), ammunition ($11), and other (mostly combat support equipment and other consumables) ($28). The total for Case One across these budget subcategories was $166 billion. (Multiply these values by 1.4 to express them in 1994 dollars.) Details about the JIMPP Requirements Module may be found in James S. Thomason, "The JIMPP Requirements Module: Concept and Data Base Development Plan," IDA Working Paper 88-5, 13 September 1988; James S. Thomason et al., "Graduated Mobilization Planning for the Department of Defense: Concepts, Responsibilities, and Options," IDA Paper P-2517, August 1991; Richard White, "The Theoretical Foundations of FORCEMOB," IDA Paper P-2652, 1992; and the *1993 Report to the Congress on National Defense Stockpile Requirements*, Department of Defense, May 1993.

2. The analysis was done using the Resolution of Capacity Shortfalls (ROCS) model, a 135-sector model of the US economy. The industrial sector model and the associated databases of the Integrated Civilian Industrial Mobilization Planning Process (ICIMPP), i.e. the ROCS model, were used to prepare industry-level estimates at both Step Three and Step Four for this illustration. Dr. Doug Scott of FEMA and Dr. Peter Brooks of IDA provided extraordinarily valuable assistance in preparing these estimates and distilling key results of the ICIMPP runs. ROCS was developed by Mr. E. L. Salkin of FEMA. It is a PC-based Input/Output model that explicitly tracks the US economy in terms of 135 industrial sectors (recently disaggregated to 241 sectors). The ROCS model can produce a wide range of graduated response options at a macro or industry level. Software documentation for the model was completed in April 1990. See E. L. Salkin, "A Procedure to Identify Shortages of Capital Stock—The ROCS Model," in J. Sullivan and R. Newkirk, *Simulation in Emergency Management and Technology* (The Society for Computer Simulation, 1989). Many of ROCS features are similar to those in the Industry Level Model of the JIMPP FORCEMOB system, and the two modules use a number of the same databases.

3. The 135 ROCS sectors provide a comprehensive picture of the US economy. Salkin, ibid., contains additional information about ROCS sectors and their correspondence to US Department of Commerce Standard Industrial Classification (SIC) codes.

4. Total output is the sum of final output and intermediate output in a sector. For details, see R. E. Miller and P. D. Blair, *Input-Output Analysis: Foundations and Extensions* (New York: Prentice Hall, 1985).

5. For illustrative purposes this analysis arbitrarily posits that any production backlogs still expected to exceed 25 percent of an industrial sector's annual Peacetime Operating Capacity after a year of recovery effort pose an unacceptable risk to military readiness and need to be fixed. DOD should establish some benchmark standards of this kind to ensure proper materiel readiness.

6. Full imports are defined here as the sum, across all international trade regions, of the maximum level of imports obtained by the United States in that sectional product category from the given international trade region during any of the last six years, times the estimated trade reliability (varies from 1.00 for "completely reliable" to zero for "unreliable") of the given region in the context of this planning scenario. In these estimates, the reliability decrements are imposed only upon the extra imports (above and beyond the baseline "normal" import projections) in any and all of these cases based on private communication with Dr. Douglas Scott, 5 November 1992.

7. A number of detailed assessments of the capability of specific firms to produce additional goods and services on a time-urgent basis have been conducted over the last decade. The section "Toward a Continuous Graduated Response Assessment Process" discusses several possible assessment options for the federal government as it tries to establish how long it takes firms to produce various items under different production conditions and priorities, given that firms don't generally have strong peacetime incentives to accurately determine how well they could do under priority conditions.

8. The DOD recovery budget estimates for Case Two, by category (1988$B) were estimated as follows: operations and maintenance ($83), aircraft ($96), tactical missiles ($100), weapons and tracked combat vehicles (WTCV) ($11), ships ($20), ammunition ($26), and other (mostly combat support equipment and other consumables) ($69). The total for Case Two across these budget subcategories was $404 billion.

9. The briefing by DASD (P&L/Production Resources) in "IDA-FEMA-DOD Resource Preparedness Seminar Three," 26 June 1992, as well as a follow-on briefing by ODASD (P&L/PR) in Seminar Four of the IDA-FEMA-DOD 1992 Seminar Series, illustrate the approach.

10. See Logistics Management Institute, Final Report of the Integrated Army Mobilization Study (IAMS), April 1992.

The Future of the Defense-Related Industrial Base in the United States

IVARS GUTMANIS

Scholars recognize that large and continuous defense budgets in the United States during the 1980s contributed to the demise of the Soviet state. One observer has noted that the ruin of the Soviet economy was "overwhelmingly due to their obsessive diversion of funds into military production."[1] Others, among them George Weigel[2] and Eugene V. Rostow[3] point to the "almost maniacal growth" of Soviet military spending as a very significant contributory cause of the Soviet collapse. It is germane to this discussion that all of these analyses occurred after, rather than in anticipation of, US investments in weaponry during the 1980s.

US annual defense budgets in the 1980s averaged $300 billion, peaking with the 1989 budget of almost $320 billion. Large outlays in the defense technology industrial base during the decade allowed DOD to acquire the advanced weapon systems needed for the essential edge in conventional deterrence. At the same time, these expenditures placed enormous stress on the Soviet economy and its industrial establishment as they sought to match the US level of investment in new technology and derivative advanced applications. The estimated 18,000 prime and subtier contractors in the US defense technology industrial base supplied required defense materiel while significantly advancing technologies and improving production processes. DOD's policy to assure redundancy and alternative sources among the suppliers of defense materiel combined with large research and development expenditures to produce weapon systems and other defense materiel of exceptional quality.[4]

Equally important, large expenditures within the US defense technology industrial base accelerated the incorporation of advanced technology and helped to create significant economies of scale in production. Large manufacturing facilities were often dedicated to individual weapon systems, leading to specialization and concentration that also advanced the learning curve among production personnel. DOD spending in the 1980s also encouraged significant research, development, and engineering activities by defense contractors and by various research establishments, laboratories, and academic institutions.

The federal government has been debating since the collapse of the Soviet Union the nature and size of the new threats that could pose a risk to US national security. No matter what threat we agree on, policies, plans, and budget programs will appear to assure an adequate supply of defense materiel for anticipated requirements. Regardless of specific positions on how much is enough, one outcome of the debate is already clear. The politics of change will continue to cause unprecedented reductions in the US defense technology industrial base.

This article examines two types of activities that address the future of the US defense-related industrial and technology base. The first consists of efforts by Congress and the Administration to introduce concepts, laws, and regulations that would maintain the defense technology industrial base and the industrial activities essential to US national security strategy. These include low-level production of defense goods, maintenance of manufacturing facilities with dual—civil and defense—capabilities, more productive use of US government owned and operated facilities, and introduction of "prototyping-plus" in defense procurement processes.[5] The second type reflects actions proposed or in progress among the large US defense contractors and their networks of suppliers which are resulting in decisions either to abandon or significantly restructure their defense-related activities.

These two movements are not mutually supportive; in fact they are often contradictory. Their evolution creates risks for managing the defense technology industrial base, primarily because the range and scope of the changes taking place generally are not apparent to those charged with national security emergency preparedness. Part of the risk lies in long-held assumptions about industry's capacity to respond in a national security emergency. Such assumptions are being invalidated daily, well out of sight of strategists and planners, as companies large and small leave defense business, shift to production for civilian markets, or downsize to an extent that precludes their responding rapidly in a crisis.

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Recent History

There is strong consensus that US national security must be based on military superiority achieved through a well-trained and well-equipped fighting force, supplied by an adequate defense technology industrial base. The wisdom of such a policy is illustrated by the outcome of the 1990-91 war with Iraq. Three general observations about that conflict are important for policies affecting the defense technology industrial base.

First, US preoccupation with global war made it difficult for logistics and industrial preparedness planners to cope with the very specific requirements of conventional conflict outside the NATO region. The complex deployment to a remote region and operations from a largely bare-base environment not only challenged many Cold War assumptions, they also foreshadowed our involvement in Somalia.

Second, the ad hoc coalition in the Gulf, fielded without extensive DOD planning and exercises, differed significantly from anticipated Southwest Asia contingencies. By January 1991, the Army had moved 42 percent of its helicopters and 57 percent of its armored vehicles (M1A1 Abrams and M2/M3 Bradleys) to the Gulf. At the same time the capacity to expand production of M1A1 or M2/M3 vehicles was marginal.[6]

Third, in spite of the very large defense outlays in the 1980s, relatively limited military actions in 1990 and 1991 produced shortages of some supplies and materiel. In some instances, DOD had to rely on foreign sources for some of the required materiel. Most of these shortages were the direct result of the overall relative decline in the defense technology industrial base, particularly in some critical industry sectors, such as electro-optics or special bearings. Although warned of such potential shortages,[7] DOD essentially ignored the status of the defense technology industrial base. The prevailing attitude was that significant levels of defense spending would guarantee the supply of defense materiel at the times required. That, of course, turned out to be an incorrect assumption.

DOD budget reductions will undoubtedly continue. Some predictions are in the range of $200 billion per year, with estimates as low as $180 billion later in the decade.[8] These much smaller budgets will significantly affect the size and health of the defense technology industrial base. Reductions will continue; firms that design, engineer, and manufacture defense products may decide—or be forced—to leave DOD's stable of prime and lower tier contractors. Concern over these defense technology industrial base adjustments has resulted in a series of policy proposals by Congress and the Administration. Industry itself has become an increasingly active participant in the debate.

The level of defense procurement directly affects research and development; the very important independent research and development activities are supported to a large extent by overhead charges in production contracts. When

large production runs were the rule, many companies willingly invested their own funds in independent research and development because there was a reasonable expectation of recovering their investment out of future profits from production. In effect, a significant portion of DOD's research and development during the Cold War was paid for by industry.

US defense budget reductions forecast equally significant changes in how the military services spend their money. The danger is that the services will attempt to maintain as large a force structure as possible through offsetting reductions in other categories of expense, such as maintenance and improvement of the defense-related industrial base. Somehow the essential skills in engineering, testing, prototyping, manufacturing, fielding, and maintaining defense materiel for the services must be preserved. A balance must develop among operating funds, sustained improvement of existing weapons and other materiel, and new production of technologically advanced defense systems. The dilemma for policymakers is quite clear: how to preserve, in the future, an adequate defense-related industrial base in the face of significant reductions in US defense expenditures.

Policy Issues

A number of strategies have been proposed to meet future US defense technology and industrial needs. All of them stress broad policy choices, such as the autonomy of the nation's defense-industrial sectors, competition among defense contractors, the degree of integration of defense and civilian industry, and the appropriate level of government intervention in the industrial base.[9]

Four sets of strategic options will continue to influence the debate over defense-industrial management. The options are expressed below as paired alternatives:

- continued low-rate production of defense materiel to retain minimal industrial capability or plant shutdown and reactivation when required
- a controlled degree of international interdependence or national autonomy in defense production
- a regulated arsenal approach to some production or more extensive reliance on the domestic civil sector and a market approach for production
- prototyping advanced technology weapon systems and defense materiel or longer low-level production cycles and inefficient sustained production

The various defense industrial sectors are positioned along a continuum reflected in the four policy choices. Retention of a competitive US defense technology and industrial base over time requires careful application of the policy options among the most important of the industry sectors involved in

"The dilemma for policymakers is clear: how to preserve an adequate defense industrial base in the face of significant reductions in US defense expenditures."

defense production. Application must include consideration of the strengths of suppliers and subtier manufacturers in each sector. In practice, none of these strategic options can be pursued to the complete exclusion of the others.

Low-Rate Production or Plant Shutdown and Reactivation

Continuation of low (or lower) levels of output might preserve the businesses, facilities, production lines, and teams of skilled employees that supplied defense materiel in the past. Analyses of DOD procurement plans, however, suggest that this policy alone will not be sufficient to maintain many defense-related industries. Future spending levels for defense materiel may be lower than the minimum required to maintain production of certain weapon systems. A contributing factor is the large production runs during the past decade which filled the inventory and met fielding requirements for a number of major US weapon systems.

Analysts cannot ignore the fact that in the late 1980s the production of M1A1 and M1A2 tanks and Apache helicopter missiles for the domestic inventory was discontinued. Foreign sales are the only remaining production requirement for these weapons. While a number of US manufacturers, such as McDonnell Douglass, anticipate significant foreign orders, it is not prudent to base US defense-related production capacity on the uncertain potential for exports of US weapon systems. Consequently, low-rate production has been effectively discounted as a useful policy for maintaining the US defense-related industrial base. Reactivation of defense-related plants would require one to three years of elapsed time for equipment and machinery restoration and training of the labor force—not an acceptable delay in the event of a national emergency.

Controlled International Interdependence or National Autonomy

This option acknowledges that the technology and industrial base is becoming globalized and that the cost of developing new weapons and other materiel systems continues to grow. A recent Defense Science Board study argued that the advent of industrial globalization created "an interdependence of allied nations for the technologies and even the components of defense

systems." The study also noted, "The days of Fortress America are past. We are, and will remain, dependent on foreign resources for critical components of our weapon systems. We cannot eliminate foreign dependency in this era of globalized defense industry."[10]

Proponents of international interdependence contend that it can create a more competitive environment, ultimately decreasing the price of military products; facilitate standardization and interoperability of weapons with allies; and assure access to the best technologies as new scientific developments take place around the world.

Cooperation with allies may be determined in part by the need for stronger controls on the proliferation of weapons and defense industrial capabilities. A recent report by the Office of Technology Assessment on the international arms trade examined the dilemma of the United States and its allies in choosing between arms exports to help maintain a viable defense production base, and export controls to reduce the flow of modern weapons and technology to potential trouble spots.[11] The study argued that the globalization of the arms industry and trends in defense technology suggest that unilateral action to reduce the proliferation of modern weapons and technology is bound to fail. If so, then closer defense industrial cooperation with sophisticated partners, such as our European allies and Japan, would provide access to new technologies while improving allied coordination and creating leverage for controlling the export of sensitive technologies.

Opponents of international coproduction programs propose a "Buy American" strategy as the best way to reserve limited defense procurement opportunities for US firms. They contend that foreign-sourcing could aggravate weaknesses within the US defense technology industrial base. Moreover, foreign-sourcing could impair our ability to respond in a crisis if foreign firms prove to be unresponsive to our requirements. Those who favor self-reliance argue that procuring most or all defense materiel from US sources would reduce the risk of supply cutoffs during a crisis, protect domestic suppliers of services and equipment from the threat of unfair foreign competition, and increase the demand for US defense products. The cumulative effect of those advantages, they insist, could increase US industrial productivity through larger production runs, which would also accelerate technology improvements.

Since most of our military systems are already purchased from US prime contractors, this strategy would have its greatest effect on subtier industries such as optics, fasteners, bearings, and electronics. The most relevant national security consideration related to international suppliers, however, is not total foreign content but vulnerability of critical US technologies or products.[12]

During interviews with more than 60 US defense industry executives regarding future collaboration to design and manufacture weapon systems, not a single executive supported increased interdependence with foreign sources. All declared that past DOD collaboration efforts (including coproduction arrange-

ments) had cost the US firms dearly in transferred technologies, engineering know-how, and loss of manufacturing processes to foreign industrial entities, without any compensating benefits. A large number of the executives identified foreign, particularly European Community, military equipment programs that are directly aimed at reducing their dependence on US arms and are competing with US producers for defense sales in world markets. From a national security perspective these views are unfortunate, because close cooperation with our allies in weapon design and production could benefit all.[13] They are, however, well founded in the differences between the ways that US and foreign firms, and their national governments, do business.

The US and European defense markets are dominated by policies that sound similar, but differ greatly in detail (see Figure 1). The disparities, derived from contrasting national policies regarding defense, address the increasing integration of national security and economic security.

United States	Europe
• A single market	• Fragmented, but integrating
• Domestic market still considered sufficient to sustain independent industry	• Domestic markets insufficient to sustain national industry
• Competitive procurement between US companies	• A mix of directed and competitive procurement
• Two or more competitors in each sector	• National champions in most sectors and often one European industrial alliance
• Arms-length government to industry relationship	• National treatment varies widely
• Funding revised annually	• Multi-year planning the norm
• Exports essential for some systems	• Exports essential
• Government to government collaboration is the exception	• Transnational collaboration is the norm through the life of the program

Figure 1. Contrasting Defense Cultures

There are a number of obstacles to US-European cooperation. The legal and regulatory mechanisms that generated these obstacles are constantly adjusting to fundamental changes in the character of the new defense market environment. The mechanisms are also changing as regional organizations evolve.

• *Controls on international trade, including tariff and non-tariff barriers.* While tariffs are no longer a major obstacle to defense trade, non-tariff barriers such as local content requirements, offsets, and national

preference bid adjustments are increasingly used to benefit one or another of the prospective partners in such arrangements. Import quotas and "anti-dumping" provisions also have been used to restrain trade, especially in the more general market. National policies and regulations governing control of defense projects, and laws like the US "Buy American" act and comparable laws in Europe, have frequently complicated cooperative ventures in defense production.

- *Technology transfer issues.* The transfer of technical knowledge and production capabilities has been a thorny transatlantic issue for companies as well as governments. Nothing has changed sufficiently in this regard to expect more cooperative behavior among companies involved in coproduction schemes.
- *Intellectual property rights.* Intellectual property rights—patents, copyrights, rights in data—are not treated uniformly in the United States and Europe. The differences continue to make it extremely difficult to improve cooperation.
- *Standardization and testing requirements.* Creation of a new Common Market—some less elaborate version of the original concept—may exacerbate, rather than simplify, the problems of creating uniform (or compatible) standards, qualifications, certifications, and testing for a wide range of products. US and European companies cooperating in defense manufacturing could face logistical constraints and cost penalties because of distinctly different national and regional standards.
- *Competition and antitrust guidelines.* The principal difference in cultures appears in national policies regarding competition. The United States encourages competition and the Europeans generally encourage stability at the expense of open competition. These views are embodied in national and regional antitrust and anticartel legislation and regulations.

A large number of US manufacturers have established joint ventures with foreign firms for the production of various civilian market products. It remains to be seen, in view of past constraints on such products and the increasing integration of national policies into European community-wide operating procedures, whether this strategy option offers any significant relief to US defense firms.

An Arsenal System or Integration into Non-defense Production

Some members of Congress, DOD officials, and other observers argue that the US defense technology industrial base lacks both the control and assured production of a government-owned arsenal system and the innovation and flexibility potentially available from private industry. They conclude that the current situation within our defense industrial sectors reflects the worst of all possible worlds. Some advocate a return to an arsenal system, while others prescribe greater integration with the civilian economy.

Future defense production requirements probably will be too limited to support competitive procurements from multiple defense firms. For many years, the United States maintained the defense technology industrial base through a system of government arsenals and close association with a small number of commercial producers. A modified "arsenal system," composed of a combination of government-owned facilities and sole-source private firms, might allow efficient development and manufacturing of military-unique equipment. Such a strategy would concentrate on establishing and maintaining a limited number of expert sources of weapons and equipment and would restrict competition for DOD contracts to those firms and public facilities with recognized skills.

Proponents of the modified arsenal strategy argue that it would allow the United States to develop and conserve needed expertise that could then be expanded in a crisis, improve the efficiency of contract bids and proposals, and increase the stability of production. Implementation of the arsenal strategy would require major changes in current procurement laws and in the philosophy of materiel acquisition. And while policies governing promotion of competition would have to be reexamined, competition could be maintained at acceptable levels under this alternative. Congress would also need to consider different ways of controlling costs and fostering innovation without full and open competition.

Industry executives consider the arsenal concept as equivalent to nationalization of the US defense industry and are very much opposed to such policy. Their arguments focus on the fact that this approach would significantly hamper innovative advances that have made US weapons superior to those of other nations.

Conversely, we could place greater reliance on integrating defense requirements into the civilian sector, buying civilian parts off the shelf, and using more civilian technology and procedures. Proponents of increased reliance on the civilian industrial base argue that it would lower the development and production costs of weapons and other military systems, result in an improved mobilization capability against a reconstituted global threat, and make improved technology available to defense in areas where civilian technology now leads military technology.

Prototyping Advanced Technology Systems or Long Low-level Production Cycles

Defense, congressional, and some industry leaders have recommended that a policy described as "prototyping-plus" be adopted to maintain the US defense-related industrial base. This would involve the continuous development of prototypes with limited production for operational and field testing in selected cases. In the event of a need to replace obsolete systems or the emergence of a new military requirement, some of the prototyped systems could be developed further for quantity production.

Prototyping refers to the development and testing of working models—from computer simulations through operational hardware—to explore advanced technology concepts and demonstrate specific design and operational objectives, thereby advancing technological content in the new weapon systems. The current acquisition process assumes that research and development will lead in most cases to a design to be produced in quantity within a specified period for immediate introduction into the operational inventory. This assumption severely constrains the number of technological options that can be explored during research and development as well as in design and production engineering. A prototyping strategy, in contrast, would explore a variety of system, subsystem, and component technology options without the assumption that development would proceed directly to quantity production, which would become the exception rather than the rule.

Greater reliance on prototyping at the expense of quantity production would have both benefits and costs. It would advance systems technology (systems design, not laboratory research and development), keep design teams intact, and support deployment of the most advanced equipment. But it would sacrifice engineering and manufacturing teams, hot production lines, and large-scale production. The prototyping-plus approach would avoid simply putting new technologies on the shelf, which could lead to atrophy of the manufacturing base. This variation of prototyping would maintain the US edge in defense technology for major systems (e.g., ships, aircraft, tanks) despite cuts in both current production and new program starts. Analyses of emerging military threats and computer simulations could identify new capabilities that might provide a clear performance advantage at an acceptable cost. A technology-demonstrator program could then begin without a formal military requirement or the assumption of an eventual procurement.

Enough operational prototypes would be produced to enable military customers to develop associated tactics and doctrines; perform reliability, maintenance, and live-fire testing; and provide feedback to the development team on improvements needed to fine-tune the system and compensate for operational shortcomings.

Limited production of prototypes also would provide some preliminary manufacturing data, increasing industry's ability to produce the system when needed, in sufficient quantity, and at a target cost. Since long production runs would not be available to improve poor designs, a prototyping-plus strategy would emphasize designing for producibility, moving forward production issues that currently are not addressed until much later in the development process. Thus, a prototyping-plus strategy would achieve a marriage of R&D and manufacturing, with the goal of supporting both.

Prototypes would preserve the potential to move into quantity production when needed, although only a fraction of all prototypes would enter the engineering and manufacturing development phase. A service would have to

demonstrate a compelling requirement to go to full production of a weapon system or other materiel item. The production contract could be either awarded to the same firm that designed the prototype, or opened up for competitive bid.

To hedge against uncertainties in both technology and the security environment, the number of prototyping programs should be large relative to the number of systems that enter quantity production. Even though most prototyping programs would not lead to a design that is produced in quantity, they still would yield useful information and technologies that eventually could be recycled into the next generation of systems or transferred to other programs.

Shifting to a prototyping-plus strategy would entail a fundamental cultural change in both the defense industry and the government acquisition community. It would require a restructuring of the materiel acquisition process away from the linear pipeline process culminating in production. A prototyping-plus strategy also would require restructuring in the defense industry to reduce capacity and create more flexible manufacturing practices, such as multiproduct assembly lines and adoption of the agile manufacturing techniques currently under development.[14] To this end, DOD would need to continue to support the development of innovative manufacturing processes and new materials.

The four strategy options available to those pondering the future of the defense technology industrial base may in time produce unanticipated variants. What will remain constant over time is the requirement to be able to respond in a crisis requiring the US to commit significant forces in support of national interests. Soon enough we will have to begin to invest in one or a combination of the foregoing strategy alternatives or derivatives of them.

Industry Responds to the Defense Drawdown

Neither DOD nor any other federal agency knows the precise composition of the US production base. The best estimates identify some 30 corporations that serve as prime contractors who integrate components into defense-related end products. Considerably less-exact estimates identify some 9000 to 15,000 industrial and service entities that serve as second, third, and lower tier subcontractors to the large system integrators. Figure 2, on page 72, identifies the top nine US industry sectors supplying DOD by the value of their 1990 defense output.

Over some 40 years, the defense industry has developed skills and procedures that differ significantly from those required and used in civilian markets. Competition within the defense industry differs from the private sector in that defense contractors essentially have only one customer. Conventional marketing skills involve volatile customer requirements, preferences, price elasticity, advertising and promotion, and related aspects of the commercial marketplace that are almost totally unknown to defense contractors.

A company that sells to DOD must manufacture products to the exacting specifications provided under strict MILSPEC and MILSTANDARD re-

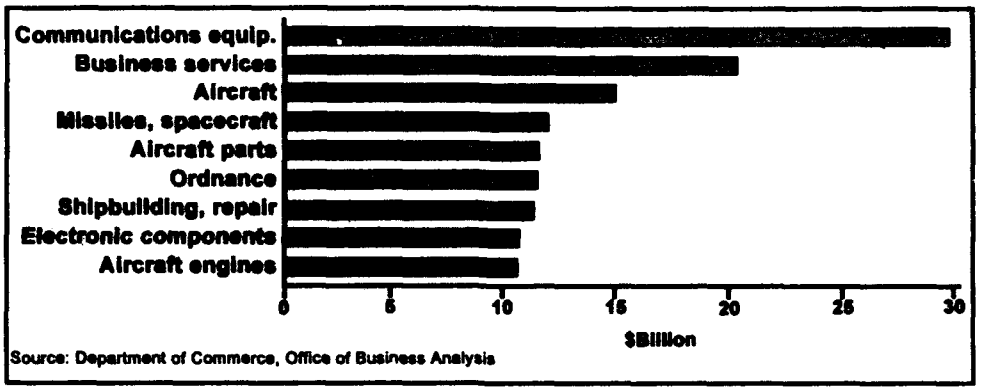

Figure 2. Top Nine Defense Industries by Value of Defense Output, 1990

quirements in the DOD version of the Federal Acquisition Regulations. The costs of production or the final costs of a weapon system can be of secondary importance to a defense contractor. Unlike the commercial producer, whose sales and therefore output depend on variables such as price, promotion, and advertising, the defense contractor has comparatively accurate knowledge of total production at the beginning of a production run, as well as any potential growth. On the other hand, a defense contractor must comply with many accounting, management, and production regulations, the overhead costs of which are unknown to those who manufacture and sell in the commercial sector.

These large differences between the defense and commercial sectors have nurtured a cadre of defense industry managers who are unfamiliar with commercial practices. Similarly, at the higher levels of DOD, many Defense Department officials (mostly political appointees) who direct defense procurement come from commercial enterprises and understand little of the complex nature of the defense sector's capacity, capabilities, and operations.

Proposed changes in defense acquisition policies have four key components: increased research on advanced technology, stronger emphasis on development of technology "demonstrators" and prototypes, upgrading of current weapon systems using advanced technologies, and limited production of new systems if certain criteria are met. Limited production runs would develop manufacturing experience and obtain operational feedback from equipment users. DOD readily acknowledges that this plan, while reducing costs, will result in excess production capacity and mean further consolidation of the defense industry. In response to mounting criticism, DOD has stated that it is taking steps—yet to be identified—to ensure that essential manufacturing processes are maintained, even during gaps or shortfalls in production runs.

Industry critics object to the greater emphasis on basic science rather than development, and on prototyping rather than production. They maintain that without a higher priority on materiel-specific development and greater

production runs for new systems, there is little or no financial incentive for defense companies to participate in such projects. Further, in some industries such as aerospace, prime contractors operate their own facilities with substantial fixed costs, all financed through a uniform fee structure that varies with production runs. As a result, the new plan would likely reduce the overall financial health of these companies. While DOD has acknowledged some problems with its plan, it believes that a key to the plan's overall success is to make research and development profitable through still-undefined incentives for the defense industry.

Defense contractors have been responding to defense reductions and alternative plans for the defense technology industrial base generally as follows:

- monetize assets, that is, outright sale of the defense-related activity (subsidiary, department, or division)
- consolidate DOD product lines into fewer "core" defense-related functions
- convert DOD-related facilities to the production of comparable commercial products
- retain DOD-related facilities and manufacture defense materiel for foreign military sales

Responses by defense contractors to defense procurement reductions vary markedly for several reasons: differing administrative structures and capital investments in defense operations, the degree of dependency on defense business, and the financial health of the company. Most of the large defense contractors pursue several of these business strategies concurrently. It should be noted, however, that none of the principal defense firms has embraced the concept of prototyping-plus.

The activities of three prime defense contractors demonstrate the application of these remedies.

- General Dynamics Corporation, one of the largest defense contractors and almost completely involved in defense-related activities, provides an example of the outright sale of DOD-related facilities and the consolidation of others. The corporation sold its Fort Worth F-16 jet fighter facility to Lockheed and its defense electronics division to the Carlyle Group, then consolidated its defense business in the production of the *Seawolf* submarine and M1A1 and M1A2 tanks. The fact that the activities which General Dynamics chose to retain are in facilities furnished by DOD obviously was an important factor in this decision. Whether these actions helped the future of the defense-related industrial base is an open question. The outcome depends on whether or not the buyers of the General Dynamics facilities can or will maintain defense-related production in the years ahead.
- The Carlyle Group has acquired General Dynamics' defense electronics facility and has bought other defense-related companies, such as Voight Aircraft and Phillips Corporation's Magnafax Division. Purchases

such as these often anticipate that new ownership may introduce better management methods and an improvement in performance. It should be remembered, however, that defense markets for these companies' goods will be significantly reduced; anticipated profits may be unduly optimistic. The eventual contribution of such consolidations and acquisitions to a more capable defense technology industrial base remains to be seen.

One follow-on alternative is to sell recently purchased firms to the public. Again it is unclear whether the new buyers would be able to maintain the firm's defense-related capability. And a public sale may be difficult to arrange in light of declining defense markets. It should be noted that in the case of the Carlyle Group, this "merchant banker" has not been able to complete any of its six leveraged buyouts of defense firms by selling the firms back to the public.

- Martin Marietta's competition with the Northrop Corporation for the acquisition of the Grumman Corporation, the venerable Long Island military contractor, which Northrop ultimately "won," is another example of this trend. So is Martin Marietta's purchase of the General Dynamics Corporation's rocket division in 1994 and GE Aerospace in 1993.

There is no long tradition of successful defense conversion to the civilian market. Recent studies of conversion have helped defense industry leaders to become aware of the complexity and limitations of conversion initiatives.[15] The jury is out on the effects of divestitures and consolidations such as these on the defense technology industrial base.

Finally, foreign military sales sometimes seem to promise an attractive strategy for the maintenance of the defense-related industrial base in the United States. Foreign sales of US military systems have nearly quadrupled in the past seven years, from $6.5 billion in 1987 to more than $25 billion in 1993.[16] The 1990-91 Persian Gulf conflict established the superiority of US weapons, making them very attractive to foreign buyers. However, there are developments which may limit foreign military sales by the US defense industry. One expert in the field has noted:

> Picking up the slack by selling more weapons abroad is . . . unlikely. Demand for weapons in Europe, for example, is forecast to shrink by at least 15 percent over the next five years. What's more, Europe has its own national champions—Aerospatial in France, British Aerospace in the United Kingdom, Daimler-Benz in Germany, Alenia in Italy. They increasingly crowd out American competitors, especially since they too have excess capacity. And buyers in Asia and some third-world markets are nationalistic; US companies will find it difficult and expensive to make inroads and will also find more competition than ever from suppliers in Europe and the Commonwealth of Independent States.[17]

Competition for weapon system sales from foreign arms manufacturers has been formidable. Sale of M1A1 tanks to Saudi Arabia and Egypt had to best

the UK's Challenger; F-15 fighter sales had to beat the UK's Tornado. Even Russia's military has reorganized and revitalized its foreign sales processes. Spetsvneshtekhnika GTD (the State Foreign Economic Corporation for Export and Import of Armament and Military Equipment), in spite of its cumbersome title, is expanding sales of Russian military systems. It is not difficult for the Russians to do so in the light of the very low prices asked for some of their best military hardware, such as $20 million for an Su-27 fighter.

Conclusions

The federal government, with Congress and DOD in the lead, has proposed the prototyping-plus concept as the preferred strategy for maintaining our defense-related industrial base. US defense contractors, especially the large prime contractors, consider that strategy to be the least likely to succeed. The prime contractors have responded to continuing reductions in DOD contracts with a number of business strategies, ranging from monetization of some of their assets to increased foreign military sales. The strategies followed by our defense contractors are not fully in concert with policies recommended by the government. It is likely that some of the major US defense contractors will be forced to leave the defense business entirely.

In the case of military aircraft, there is consensus that by the year 2000 only two of the present five military aircraft firms will remain in business. Lockheed and McDonnell Douglass are the two most likely candidates to supply military aircraft in the 21st century. Certainly Lockheed's design and development work on the radar-evading F-22 aircraft and McDonnell Douglass's anticipated work on F/A-18E and F fighters, as well as continuation of C-17 production, should assure DOD that critical skills for developing military aircraft will be maintained.

Likewise the congressional decision to retain General Dynamics' New London, Connecticut, submarine-building facility as well as the Newport News Shipbuilding and Dry Dock Company's facilities assures continuation of the nation's submarine and carrier-building skills. Of course, the future monopoly position of both General Dynamics and Newport News will effectively destroy price competition for these important defense systems. That apparently is the cost of retaining suppliers of essential naval vessels.

General Dynamics, the principal current tank contractor, operates from government owned, company operated (GO-CO) facilities, located in Lima, Ohio. Appropriate DOD policies should assure continuation of this important entity under General Dynamics or other management.

The ability of lower tier defense contractors to remain in business through adjustments in method and programs after large reductions in DOD purchases is far less certain. Some of them will be forced to cease operations or will be sold for much less than their actual market value. This is particularly true when the contractor represents a relatively insignificant portion of a large

industrial corporation's business. Other lower tier defense contractors are adjusting by varying forms of conversion. Such conversion is a difficult undertaking; often the most obvious markets for converted product lines are filled with very capable and well-established competitors.

The willingness and ability of these lower tier defense contractors to continue to support defense production is questionable. DOD assumes that the chances for survival of some of them may be enhanced by modifying the military standards and regulations employed in acquiring defense materiel.[18] Others, firms that successfully convert to commercial markets, may become dual-use producers selling in the commercial markets as well as to DOD. However, DOD's efforts to ease military specification requirements and other acquisition regulations to encourage dual-use manufacturing appear to be fragmentary, lacking a comprehensive and sustained program approach.[19]

In the final analysis, we will get from the remnants of the defense industry exactly what we are prepared to pay for. Let us hope that the premium of this insurance policy continues to be paid when due.

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Roles, Missions, & Functions for National Security Emergency Preparedness

JAMES A. BLACKWELL, JR.

The Federal Emergency Management Agency (FEMA) needs to fundamentally change its approach to national security emergency preparedness in order to adapt to the challenges facing the United States. The old ways of managing national security emergency preparedness will not work in the future. New roles, missions, and functions must be devised to enable the government to respond to peoples' demands and expectations and at the same time help create a government mechanism for emergency management that works better and costs less.

Once FEMA has adapted to these new roles, missions, and functions, it should take the lead in creating the mechanism for dealing effectively with the changed environment and circumstances of national security emergency preparedness. We expect the President to act in an emergency; he needs an executive agency to integrate government responses to crises, whether domestic or foreign. No single government agency has, nor can it have, the range of authority that FEMA has been given over the years for the purpose of steering the nation through a time when survival is at stake. Because the very nature of national security is changing, FEMA needs to transform the way in which it serves the President in carrying out his national security emergency preparedness responsibilities.

The Need for Change

FEMA's emergency response tasks have traditionally been managed under two different but related categories: domestic and national defense. In time of certain types of domestic crises, the President calls on FEMA to coordinate the federal response to the emergency. Recent natural disasters

have found FEMA in action throughout the country, helping to coordinate the activities of all levels of government and thousands of volunteers who have turned out to help their fellow citizens.

FEMA also has a set of duties and responsibilities associated with national security. In time of general war, or a major national security crisis, FEMA would be the President's executive agent for a broad set of authorities that would become operative in a declared state of emergency. Changes in the nature of national security, however, require us to consider changing the ways and means available to the President to respond to a national security crisis.

During the Cold War FEMA coordinated certain aspects of federal planning—civilian and military—in anticipation of a national security emergency. Cold War national security emergency preparedness missions fell into three categories: continuity of government, civil defense, and economic mobilization. These missions were carried out under a broad policy known as graduated response. Missions—directives and tasks assigned by the President to agency and department heads—allow the President to develop, coordinate, and integrate policy derived from the programs and activities that guide federal emergency preparedness and capabilities. The relevant programs and activities are established by the National Security Act, the Civil Defense Act, the Defense Production Act, and international treaties.

New types of scenarios promise to reshape traditional threat calculations for national security emergency preparedness. For reasons that will be described later, the scenarios also have the potential to blur the distinctions between FEMA's two forms of emergency preparedness. New scenarios might include concurrent mid-intensity conflicts in two separate regions of the world; multiple catastrophic natural disasters occurring simultaneously in the United States; a catastrophic natural disaster causing a major technological accident; or a catastrophic natural or technological disaster in the United States concurrent with the start of a regional military conflict involving US forces. In the past the country could afford to treat these possibilities as lesser included cases of a potential global war with the Soviet Union. Today they must be treated as real possibilities on their own merit since we no longer have the larger including case—and its associated resources—to rely on.

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For the predictable future, national security emergencies may not resemble emergencies associated with natural disasters. During the Cold War our military strategy called for preparedness to fully mobilize our population and economy. We had the luxury of planning and exercising events such as "mass casualty drills" for both wartime and peacetime emergencies because resources available from a large military establishment could be diverted to meet civil needs. With US military strategy and force structure in transition—in both the active and reserve components—we are entering a period in which DOD resources may no longer be available to support such activities. FEMA should therefore consider how it might respond in emergencies when resources are available only from other federal agencies or the states.

Another fundamental change in the national security environment that will have a profound effect on national security emergency preparedness roles, missions, and functions is that the character of our state and society are undergoing basic change. The United States is experiencing in the 1990s an increase in the number of organized groups and interests it is attempting to serve. If this shift continues, its consequences will challenge all government agencies—federal, state, and local—to find new ways and means to define and then respond to emergencies declared to be catastrophic.

Finally, the government itself is changing. If its declining share of federal resources is an indicator, the Department of Defense is no longer the most important cabinet agency. A National Economic Council has been created and made equal to the National Security Council, and economic security has become an important concept in its own right. The National Performance Review has set new benchmarks for creating a government that works better and costs less. The review asks federal agencies to divest their bureaucracies of outdated methods, streamline their processes, reduce in size, and embrace the information revolution in order to increase productivity.

In the new international security environment and in the new domestic context, old methods of preparing for national security emergencies will not suffice. All elements of the federal government, as they proceed with "reinvention," must examine the assumptions on which huge ranges of long-established policy are based. FEMA is no exception to this rule. As one of the first agencies to undergo reinvention, FEMA should also accept the requirement to start with the underlying assumptions to develop new approaches to emergency preparedness, whether domestic or national security. The remainder of this analysis deals with the changing national security aspects of emergency preparedness.

FEMA's New Role: The Virtual Organization

FEMA has been organized along the lines of a functional model; its responsibilities for integrating national security emergency preparedness were designed to be mutually supportive. This organization is consistent with management theory of the 1980s, when similar matrix models were considered good

"FEMA will have to assemble and direct assets from many agencies in the way it formerly was able to access those assets from a single agency—DOD."

business practice. It was particularly appropriate for FEMA's Cold War mission of integrating and coordinating national security aspects of emergency preparedness in a time of a single overwhelming military threat.

For the future, however, no single department will have the kinds of emergency resources that DOD had in the Cold War. Each cabinet department will be responding to multiple societal demands in the context of a more differentiated political culture. Consequently, FEMA's role as coordinator and advisor to the President will be more important during this period of variegated military threats than it has been since it was established. Stated simply, in time of emergency, FEMA will have to assemble and direct assets from many agencies comparable to the way it formerly was able to access those assets from and through a single agency—DOD. To shape and manage the crisis responses of a dozen or more bureaucracies, each with its own constituencies and problems, will require innovation equal in concept and scope to the changes occurring within DOD and other downsizing agencies.

A fluid, supple approach to organizing for the kind of emergency preparedness needed for the future can be developed by applying the concepts of the information revolution to bureaucratic structures. By transforming itself into the government's first "virtual organization," FEMA can capitalize on its unique core competencies, built up during the Cold War years, to serve as the President's planner and manager for national security emergency preparedness into the 21st century.

In business terms, the virtual organization replaces the traditional focus on product and self-preservation with a focus on customers and tasks. It bundles its products and services in ways that are targeted more discretely on customer needs. FEMA's new functional organization approach to "teaming" on issues could become a basis for eventual transition to a virtual national security emergency preparedness organization. In such a reorientation, organizational boundaries and relationships would be managed to allow individuals to move freely within their function while retaining the individual's motivation and loyalty to the larger corporate entity.

In large measure, greater fluidity is made possible by exploiting knowledge infrastructures and networks. All the principles of the National

Performance Review—benchmarking, accountability, teamwork, and learning—are key attributes of the virtual organization. The principal theoretical advantage of the virtual organization over any other bureaucratic model lies in its capacity to respond quickly to challenges and opportunities. The nature of our national security emergency preparedness tasks has not changed, only the ways and means available to respond to them.

Over the years, FEMA directors have built a far-reaching network of relationships for emergency preparedness among the federal government agencies and the states. No other federal agency has FEMA's institutional capacity for finding and bringing together quickly the organizational units needed to get things done in the interest of national security—all without having vast resources of its own to do so. FEMA is the ideal government entity to exploit the potential of the virtual organization model, because FEMA has been operating since its inception as a builder of ad hoc responses to short-notice situations.

New Definitions for Old Functions

The new strategic era requires us to redefine the functional responsibilities for national security emergency preparedness. These functions should capitalize on FEMA's core competencies of disaster response and industrial mobilization. The functions include warning, mobilization, response, and information.

Warning. It is not likely that our ability to provide early warning of a national security emergency will improve for the foreseeable future. In both Asia and Europe, economic and political trends should cause us to be vigilant for our own security as regional conflicts become the norm. Four types of warning will be necessary.

- Force structure warning time will be required to provide time for military units—which are not likely to be as ready for combat in the new era as they were during the Cold War—to get ready and deploy.
- Technological warning time will demand that we maintain visibility into the military relevance of technological developments around the world so that US forces can maintain their commanding lead in operational capabilities.
- Economic warning time is necessary to be able to initiate reconstitution of the defense industrial base to support a military buildup.
- Sectoral warning time will be required for sectors of the economy unique to national security needs. Even in those sectors where dual-use technologies and defense conversion have reduced defense-dedicated and unique production capacities, the commercial segments of the sectors will require detailed planning and preparation for their reintegration into military production processes.

Agile Mobilization. Graduated Mobilization Response (GMR) was designed to facilitate the marshaling of resources in a national security

emergency. It also presented potential enemies with the threat of a step-by-step mobilization, through which we could signal our intent to respond to the threat of aggression with overwhelming force. For the new era, the mobilization function must be far more flexible and much more finely calibrated than was necessary during the Cold War. Regional military threats, unlike the threat posed by the Soviets, will probably not be attenuated by the logic and rituals of deterrence.

- Stealthy mobilization may become an important way to mask vulnerabilities of our intended response. Because of the anticipated specificity of mobilization actions, our shortcomings could become visible to our opponents since they would not be embedded in a broad, nationwide mobilization.
- Selective surge mobilization will be required for two kinds of production capabilities: the few remaining defense-unique manufacturing sectors, and the industrial and technological sectors dedicated to commercial use in peacetime. Participation of the latter will be required to meet military production requirements in a crisis. There are new opportunities available to national security emergency preparedness planners here, as commercial enterprises adopt the tenets of "agile manufacturing" to respond to changes imposed on them by market forces. That same business agility will create new access to commercial resources and help FEMA to adopt "agile" characteristics for emergency preparedness.[1]

Flexible Mobilization Response. Graduated response should be replaced by a flexible approach that can respond to the more complex challenges of future national security emergency preparedness. Graduated mobilization response sought a consensus among 26 federal agencies in preparing a mobilization response that would be carried out during a period of several years. Flexible mobilization response must focus on directed response—not consensus—and crisis action within a six-month window of activity. It will involve members of a few key federal agencies whose operations have been tailored specifically to meet the crisis at hand.

The principal variable to be managed in a future national security crisis will be time, not resources. Consequently, FEMA should adopt an approach to competing in time that is based on emerging commercial practices. Under this concept of managing time, our purpose is not to confront an opponent with the threat of a progressive graduated response. Instead, the mobilization concept must convince us that we can meet any future national security threat by intense, focused activity in specific industrial sectors for short periods.

Information Wars. The need for new forms of mobilization response will require the national security emergency preparedness community to develop new methods of command, control, communications, and intelligence (C^3I). Acquiring, transmitting, and applying emergency preparedness information will become a new form of battlespace. Not only will we have our own

"We can no longer rely on purely ad hoc lashing together of agency C^3I functions as an emergency unfolds."

complex information systems to manage, we must be prepared to do so in spite of active attempts to disrupt, deceive, delay, and destroy our ability to communicate. We can no longer rely on purely ad hoc lashing together of agency C^3I functions as an emergency unfolds. Integrating mechanisms must be deliberately designed, planned, built, prepared, and exercised in peacetime to ensure timely, effective, and continuous emergency response.

The national security emergency preparedness system should exploit information technologies and the national information infrastructure to create "virtual baskets" of emergency response capability—carefully researched sets of information and prospective policy options—awaiting call-up by FEMA on short notice. For this purpose, FEMA should build electronic gateways to all information management, intelligence, and command and control systems under development in the federal agencies. FEMA and its coordinating agencies must be able to rapidly integrate state, local, and regional information architectures as well. Such a system will require experimentation and exercise in order to develop and maintain the ability to mobilize in six months rather than six years. A FEMA capability equal to this challenge might become a type of neural network of information gateways for asset identification, planning, training, testing, and crisis response. Such a system would have to be tested frequently and exercised extensively in a virtual mode in non-crisis times. And only a system designed to minimize peacetime resource demands could survive the approval process. This is one of the rare instances in the new era when resources applied to the security function will add value to the tasks associated with domestic emergency preparedness.

Organizing for New Missions

Despite the many similarities between preparing to respond to natural disaster and preparing to respond to war, there remains one very powerful difference between the two functions. In a natural or technological disaster, the purpose of national emergency response is to help people: to mitigate their suffering and restore disrupted functions to pre-emergency capacity. In a national security mobilization, we want not only to remedy the suffering of our own people but, more important, we want to defeat an enemy. Because emergency in the national security situation is defined as survival of the

nation, it may be more important at times during a mobilization to divert resources from mitigation efforts to the destruction of our adversary.

The requirement to set the priorities necessary to deprive—or even give the impression of depriving—citizens of the government services that are rightfully theirs should not be taken lightly. FEMA will have to manage with a lean and effective executive structure; it will also need access to the requisite executive authority to establish the priorities. A system designed to manage priorities under those circumstances would have at least the following characteristics and attributes:

- The Vice President serves as the President's national security emergency preparedness authority and has three assigned deputies: the Director of FEMA, the Secretary of the Army, and the Chief, National Guard Bureau.
- The Director of FEMA should have delegate agency funding authority—appropriations to FEMA which are fenced for obligational authority in other agencies solely for the purpose of meeting national security emergency preparedness functions—to grant dollars to the departments and agencies for national security emergency preparedness.
- Legislative authorities for national security emergency preparedness would be consolidated into an omnibus National Emergencies Act. This act would be a single, understandable, flexible, and all-inclusive piece of legislation codifying FEMA's responsibilities and the roles of the other federal agencies. The missions of each governmental body would be broadly stated in this legislation, with the details of their specific assignments and tasks provided in Executive Orders.

More detailed analysis of specific mission assignments could be made once FEMA completes its reorganization and has absorbed its new roles and functions.

Conclusion

National security emergency preparedness will remain a vital part of US national security strategy; traditional forms for managing it will not suffice, particularly for FEMA. As we enhance our competitive edge in the world economy, we should ensure that national security emergency preparedness capabilities receive appropriate attention. Major qualitative and quantitative gains are possible if creative leadership meets the challenge of change. FEMA's unique experience in dealing with preparedness and response is the foundation on which to build a new strategy for national security emergency preparedness. FEMA can and should take the lead in adapting that strategy for the 21st century.

NOTE

1. On the topic of agility, see the article by Mike Austin, "Managing the US Defense Industrial Base: A Strategic Imperative," in this issue of *Parameters*, 24 (Summer 1994), 27-37.

The Army and the Future of the International System

STEVEN METZ

Americans are inherently practical people, preferring the immediate and the tangible to the long-range and the intangible. This characteristic has brought us immense success in all realms of life, but it also complicates the process of crafting a coherent national security strategy. By focusing too much on the immediate and the tangible, we can easily lapse into strategic myopia, thus simply postponing tough decisions and allowing small threats to grow into large ones. This is particularly true during periods of strategic transition such as the current one.

A huge array of factors must be considered as we attempt to design a coherent post-Cold War national security strategy. These include not only the traditional elements of strategy such as politics, economics, and the military balance, but also newer forces such as social trends, value changes, demographics, mass psychology, the expansion of communications and information technology, and environmental concerns. But of the factors that will shape future US national security strategy and the military force required to execute it, the most amorphous and difficult to analyze is the nature of the international system itself. This is the foundation for all strategy.

Thinking at such a high level of abstraction can seem alien and esoteric to security professionals confronting the press of day-to-day problems where in-baskets rather than international systems take priority. System-level analysis is intensely, sometimes overwhelmingly complex. The tendency, then, is to avoid it in favor of more immediate and seemingly easier issues. But over the long term, the macro-level nature of the international system may be *the* most vital element of a coherent strategy. It is simultaneously ethereal and relevant, driving consideration of the appropriate force structure and procedures for applying national power. For this reason, astute strategists simply must speculate on this topic.

At this point, we cannot know precisely what form the post-Cold War international system will take. We can, however, develop a range of possibilities based on past patterns and current trends. These can be distinguished by a number of factors, including:

- the configuration and composition of the system
- the norms or principles that dominate the system
- the sources of conflict within the system
- the role of military force
- the process of change within the system

Most important, once a range of feasible alternatives is developed, we can then discern the security implications of each and thus approach the task of long-term strategy formulation with at least some basic guidelines.

Unipolar Systems

Unipolar systems represent the ultimate concentration of power. In them, the core consists of one unit; the remaining elements of the system are secondary powers or part of the periphery. There is no historic example of a global unipolar system, only regional ones such as the Roman, Mongol, and Chinese empires. But since the current global configuration of power is loosely unipolar, it is possible to conceive of a post-Cold War system in which the United States remains the sole superpower. After all, no other state is likely to challenge American military superiority in the near future, and, while the other elements of national power are more dispersed throughout the system, no other state is a first-tier actor in all the elements of power.[1] But in the modern world, a sound argument can be made that unipolarity is temporary and abnormal because modernity has sped up the systemic cycles of the concentration and dispersion of power. Unipolarity also runs counter to the American strategic tradition.[2] After all, the dispersion and balancing of political power forms the absolute essence of our own domestic political system, and thus we prefer a similar configuration in the international political system.

Given that the United States is unlikely to sustain the exertions of hegemony, a unipolar system in which some other unit forms the core could emerge. In at least the mid-term, this is unlikely unless there is a dramatic

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collapse of American power or will, but it is still feasible. The new hegemon could be a regional coalition or bloc such as the European Community or a supranational global organization like the United Nations or its descendent. Less likely but still worth mentioning is the possibility that a nongovernmental organization such as a super-consortium of corporations could replace nation-states as the locus of global power.

In the short- and mid-term, a future unipolar system would include both nation-states and non-state actors. There is a sophisticated and large analytical literature that argues that the nation-state, which is essentially an invention of the 17th century, is obsolete and incapable of dealing with modern, transnational problems.[3] In fact, James N. Rosenau notes that the world is already "bifurcated" as nation-states share power with a web of diverse, relatively autonomous non-state actors.[4] Nonetheless, nation-states are likely to persist as an important (if not necessarily the only) element of the international system because of their monopoly on military power and the tradition of nationalism. People are accustomed to paying loyalty to nation-states, and this cannot change overnight. Few if any non-state actors can inspire the extent of support that nation-states can, and no non-state actors can mobilize, train, equip, and sustain a large military. But there is no question that increasing personal mobility, economic interdependence, and global communications will continue to erode traditional notions of sovereignty. The time when a nation such as Mao's China, Stalin's Soviet Union, or Hoxha's Albania could cut itself off from the rest of the world is rapidly passing. Those attempting it, such as North Korea and Myanmar (formerly Burma), will soon pay the price. This means that the importance of non-state actors—whether economic organizations such as cartels, corporations, and consortia, or political ones such as the UN—will also continue to grow.

The *principles* of a future unipolar system would depend on whether the system is an *imperial* one, in which the hegemon imposes its power, or a *consensual* one, in which the smaller units willingly accept the authority and power of the hegemon. If it is an imperial system, history suggests that there would be three guiding principles:

- No smaller unit alone should directly challenge the hegemon.
- The amount of conflict on the periphery would be determined by the tolerance of the hegemon.
- The smaller units would attempt to organize, either formally or informally, to constrain the hegemon within parameters allowed by the hegemon. As the hegemon loses its will or declines, the impulse to constrain the hegemon will become more frequent and more formal, eventually leading to the dispersion of power in the system.

An imperial system can be held together primarily by military force or by cultural and economic interests. The most successful and long-lived empires throughout history have been those initially formed by military force,

but then held together by cultural and economic linkages. Examples include the Roman Empire, the Arab/Islamic Empire, the British Empire and Commonwealth, and the various Chinese dynastic empires. Imperial systems forged in war that failed to generate a unifying culture and economy, such as those of Alexander and Genghis Khan, fell apart rapidly. History very strongly suggests that unipolar systems in which consensus-building and diplomacy form the primary currency of relations between the core and periphery are more survivable than those based solely on force. The proliferation of weapons of mass destruction and the evolution of terrorism add to the dangers and burdens of imperial hegemony, and thus make this distinction even more true.

Since there is no exact historic precedent for a consensual unipolar system, the closest analogies are nation-states that emerged from the voluntary unification of smaller units (for example, the United States and Switzerland). Thus it is likely that the guiding principles of a consensual unipolar system would be, first, the power and authority of the central organization grows at the expense of its constituent units, and second, the right of voluntary separation or succession would eventually fade to the point that any such attempts would be met with force.

There are two primary sources of conflict within a unipolar system. The first arises when the hegemon is unable to impose its will in a benign fashion. In all historic unipolar systems, there are Saddam Husseins who underestimate the power or will of the hegemon. If their challenge fails, the system survives; if their rebellion succeeds, the system begins evolving into a bipolar or multipolar configuration. A second type of conflict arises between secondary or peripheral actors when the hegemon is unconcerned. A unipolar system would experience the same sorts of internal conflicts as bipolar or multipolar systems. These could be vertical conflicts between the elite and non-elite (traditional revolution) or horizontal ones pitting ethnic, religious, client, racial, clan, ideological, or political groups. Historically, such internal conflicts challenge the foundation of the international system only if they are very widespread or generate conflict between units, as did the Chinese and Russian revolutions. A major determinant is the hegemon's perspective on internal conflict. If the hegemon considers it a challenge to the system, then it is likely to take steps to contain or quash internal conflict. If the hegemon takes a more benign view of internal conflict at the periphery of the system, it will be widespread. The proliferation of weapons of mass destruction may, however, deny this benign perspective to the hegemon. Even a strictly internal war using them will have immense environmental and humanitarian implications and may very likely provoke outside intervention by the hegemon or with its approval. Phrased differently, it is very unlikely that any sort of effective hegemon could refrain from intervention in a nuclear civil war.

The role of military force in a unipolar system would depend on whether it was consensual or imperial. In an imperial system, military force

"Hegemony is particularly alluring to those who do not have it."

would remain very important. Military force would be used by the hegemon to retain control and, if the hegemon appears to be in decline, by secondary and peripheral states seeking to reorganize the system. Military force would also be used within states if the hegemon had a high tolerance for internal conflict. In a consensual system or in an imperial one in which the hegemon succeeded in changing from military to cultural or economic forms of control, military force would decline in importance. Its greatest utility would be during the initial consolidation of the system and during its dying days (as at the end of the Chinese, Soviet, Russian, French, or Ottoman empires) when the appeal of secession or autonomy is high.

It is possible to discuss the process of change in a future system in only the broadest terms. Two forces will lead to change in the system and eventually to its downfall. One is a decline in the hegemon's will or ability to rule. For a variety of reasons, hegemons eventually decide that the burdens of empire are greater than the benefits. And, as Paul Kennedy argued, this is sped by the fact that empires tend to rely on military force since that was usually responsible for their ascent to power, and thus ignore their own economic health.[5] At the same time, challengers emulate whatever it was that generated the hegemon's power, and thus power disperses throughout the system. Germany's acquisition in the late 19th century of a navy and empire—the two things considered by Mahan and others to form the cornerstones of British power—was an illustration of this form of emulation. Eventually it helped speed the dissolution of the Eurocentric system.

A second force challenging unipolar systems is the unwillingness of secondary powers to stay in that position. Hegemony is particularly alluring to those who do not have it, thus leading to challenges to the hegemon. Over time, these challenges wear the hegemon down, either spiritually or physically. Along these same lines, it appears that current trends favor the dispersion rather than the concentration of economic power. Wealth is now more information-intensive than production-intensive. The widespread use of microcomputers, facsimile machines, computer assisted design, and cellular communications disperses information where, in the past, large-scale industrialism concentrated wealth. This encourages the dispersion of economic power. During past periods of unipolarity the hegemon parlayed military preponderance into economic, political, and ideological superiority. Any

future candidate hegemon would find this difficult to do given the global dispersion of information-based economic power.

In summary, Americans will not allow a non-US dominated unipolar system. World War I, World War II, and the Cold War showed that this is simply unacceptable. But it is equally unlikely that the American public will support an imperial unipolar system or that the rest of the world will tolerate a consensual unipolar system for long. Historically, unipolarity emerged in a regional system when one actor leaped ahead of its contemporaries in the application of power, whether military (the Mongols), political and organizational (the Romans), or psychological/ideological (the Arabs). The communications revolution has made such a leap unlikely. Emulation is simply too easy and too fast. All indicators are, then, that Charles Krauthammer was correct when he suggested that the current unipolarity of the international system is a fleeting aberration.[6]

Bipolar Systems

Americans are certainly comfortable with the notion of bipolarity. A whole generation of strategists and policymakers came of age during the Cold War, and thus views bipolarity as the natural state of the international system. Bipolarity is somewhat more stable and sustainable than unipolarity. If, then, the United States musters the will and the means to remain a superpower and the traditional opposition to unipolarity matures, the post-Cold War system may be bipolar, at least in its initial stages. The key question is: Who or what will be the second superpower? It may be some other nation-state. There are several logical candidates: a revived Russia, an economically dynamic China, a United States of Europe, or a Japan that combines economic power with political ambition and military might. The new superpower might also be a non-state actor. The most likely candidate here would be a greatly strengthened United Nations that had somehow slipped out of the United States' control through changes in structure or procedure.

An even more likely configuration is a bipolar system in which the two opposing superpowers are groupings of nation-states. This would be similar to the Cold War system which pitted the Warsaw Pact against NATO, but the difference would be that the blocs would be less internally hierarchical. Economics could be the criterion for bloc membership. If so, feasible systemic configurations include:

- Asia versus the Americas and Europe
- the Americas versus Asia and Europe
- Europe versus Asia and the Americas
- North versus South

By contrast, the superpowers could also be culturally defined, probably pitting the "West" against the non-West. This is similar to Samuel Huntington's notion that a "clash of civilizations" is replacing the ideological

"A whole generation of strategists and policymakers came of age during the Cold War, and thus views bipolarity as the natural state of the international system."

fissures of the Cold War.[7] Ideological conflict could also reemerge, perhaps in the guise of democratic versus non-democratic groupings of states, or even a revived struggle between communism and capitalism.

Both nation-states and non-state actors will be important in any future bipolar system. The relative power of the two will be determined by the degree of conflict in the system and the utility of military force. To the extent the system is conflictual and military force retains a high utility, nation-states will be more important than non-state actors. To the extent that the system is based on cooperative relationships and the peaceful resolution of conflicts, non-state actors such as the United Nations will be more important.

In bipolar systems, there are two alternative sets of principles. Conflictual bipolar systems are based on containment. An example was the pre-détente Cold War system. Each core power in a conflictual bipolar system seeks to expand its influence at the expense of the other. The system, then, is zero-sum, with any gain in power by one superpower automatically considered a loss for the other. Conflict in the system gives military force a high utility for deterrence, enforcement of superpower control over allies and clients, and adjudicating superpower competition in gray areas of the system.

In cooperative bipolar systems the core powers are content with their spheres of influence, do not encourage instability in the other's sphere, and may actually cooperate to preserve order in the periphery. This is a fairly stable arrangement; it was the type of system sought by Nixon and Kissinger during the détente period of the Cold War. In a cooperative bipolar system, military power would decline in utility. Its primary role would be deterrence and a means of preserving intra-bloc order when all other means failed. A cooperative bipolar system would be contingent on some degree of similarity between the two superpowers. It is difficult to conceive of a cooperative bipolar system in which the two core powers are different types of units (geographic nation-state, coalition of states, ideological blocs). If, for example, the United States and a powerful UN were the two superpowers, it would be nearly impossible for them to clearly delineate and respect spheres of influence. It is ironic but true that one of the foundations of the Cold War system was a *similarity* between the United States and the Soviet Union that

was at least as important as the stark distinctions between them. Both were large, heterogeneous nation-states unified by a set of shared values derived from European roots, but at the periphery of the European tradition.[8]

In any bipolar system, conflict arises between units when:

- an area is not clearly in one sphere or the other (for example, the Korean War)
- a unit attempts to transfer from one sphere to the other (Ethiopia and Somalia in the late 1970s)
- one of the superpowers perceives exploitable weakness in the other superpower or adverse trends (the Soviet offensive in the Third World following Vietnam and Watergate)
- the intentions or capabilities of another unit are misperceived (the Gulf War)[9]
- a unit seeks to distract its public from domestic problems (the Falklands War, or Czarist Russia during the Balkans crisis leading to World War I)

The causes of conflict within units are the same as for the unipolar system: elite/non-elite struggle, and competition between political, ideological, or identity groups.

At the systemic level, change in a bipolar system is usually driven by the weakening of one or both superpowers. Since bipolarity emerges only when there is rough parity between the core powers, this weakening is usually caused by events *within* the superpower or its bloc, but it can be exacerbated or accelerated by the actions of the other core power, as with the American defense buildup of the 1980s. The weakening can come from military conflict within the bloc, social upheaval, economic decay, or simply a loss of will by the elite. The end of the bipolar conflict in early 17th-century Europe, for example, was due more to the internal problems of Spain than the strategic skill of France. It may lead to the collapse of one superpower and the emergence of a temporary unipolar system or to major war as either the weakening power feels its opportunities are slipping away or the other power sees the chance to destroy its enemy. In ancient Greece, overextension led to Athenian military decline (especially in naval power) and sparked debilitating war among the city-states with Sparta—Athens' rival—the eventual victor. The weakening of a superpower may also lead to the transformation of the bipolar system to a multipolar one as the superpower's control over its bloc fades.

Global trends toward improved communications and transportation, greater personal mobility, and economic interdependence also erode bipolarity. The basis of bipolarity is distinction. Each bloc must define the other as "different." Personal contact and economic exchanges make it difficult to sustain this distinction. This is precisely what happened at the end of the Cold War. It was not only the economic decay of the Soviet Union that led to its collapse, but also the growing openness of that country. It is only a slight

overstatement to say that the combination of SDI and CNN brought the end of the Cold War. The same process is now under way in China, although it is economic vibrancy rather than decay that is eroding the old political system. This may suggest that bipolarity itself is an obsolete configuration for the international system.

Multipolar Systems

If frequency of occurrence and long-term survivability are indicators, multipolar systems are the most natural of the three forms. This is primarily due to their flexibility. In a system with three or more core elements, power is diffused and fluid coalitions preserve the system and prevent any one power from dominating it. While all historic multipolar systems have had their share of conflict, they do tend to be better than tight bipolar systems at limiting wars.[10]

The key elements of a future multipolar system would most likely be regions or some other form of supra-state grouping rather than individual nation-states. In terms of the actual composition of the core, the most stable multipolar systems throughout history have been those with five major actors. Given this, the core of a future multipolar system might include:

- the Western Hemisphere under the leadership of the United States
- Europe under the leadership of Germany
- the Pacific rim under the leadership of Japan
- the Asian mainland under the leadership of China
- the Islamic world under the leadership of Egypt, Iraq, Iran, or Saudi Arabia

Note that in this configuration, all except the Islamic world are essentially economic blocs with a clear leader. This would make the Islamic bloc the least stable, and thus the source of much systemic conflict. Other possible (but less likely) members would be economic blocs such as south Asia under the leadership of India, or sub-Saharan Africa under the leadership of South Africa.

If the system were defined primarily by culture, ideology, or, to use Huntington's phrase, civilizations rather than economics, the core might be composed of:

- the traditional West (United States, Western Europe, Canada, Australia, New Zealand), consisting of representative democracies
- Eastern Europe under the leadership of Russia, consisting of unstable multi-party democracies, single-party democracies, or, possibly, authoritarian states
- the Islamic world, consisting primarily of single-party democracies or authoritarian states
- Latin America, possibly under the leadership of Brazil or, less likely, Mexico, consisting of both stable and unstable multi-party democracies

- Asia under the leadership of China, India, or Japan, consisting of multi-party democracies, single-party democracies, and authoritarian states

In such a system, the major sources of conflict would not be *between* the blocs composing the core of the system, but within them. There would invariably be intense competition for leadership within the Islamic bloc (as there has been since the death of the Prophet) and in Asia, while Russia's domination of Eastern Europe would generate persistent problems. Another major source of conflict would be "cusp" states that could belong in more than one bloc, such as Germany, Mexico, and Turkey. The macro-level stability of a multipolar system depends on the internal stability of the blocs composing the core. Core blocs thus often act to preserve order within other core blocs. The United States, United Kingdom, and France, for example, intervened (unsuccessfully) in the Russian Civil War. Outside support to the Austrian emperor during the upheavals of 1848 was more effective. In any future multipolar system, intervention to prop up or stabilize a weak member would be a persistent source of conflict.

The dominant principles of a future multipolar system would vary according to whether it was essentially cooperative or conflictual. In a conflictual system—especially one defined by culture or ideology—conflict would arise from attempts to preserve order within blocs. States would jockey for power within blocs, and the dominant states within a bloc would attempt to prevent disassociation or rebellion by other bloc members—the "Brezhnev Doctrine" would form a general norm. The blocs would be internally homogeneous in ideology, but there would not be a system-wide concept of human rights. Conflict would also occur between blocs, particularly when one is in decline. It was, after all, the decline of the Ottoman Empire that spawned much of the conflict leading to the downfall of the traditional Eurocentric system. A likely principle of such a system, then, would be that the dominant state in a bloc controls external relations. Clearly, military force would play a major role in such a system, and would be used both within a bloc and between blocs.

In a cooperative multipolar system, relations within and between blocs would usually be solved by diplomacy, international law, mediation, or the use of international institutions. Such a system would be inherently more flexible than either unipolar or bipolar systems. Members could move from one bloc to the other. Coalitions of blocs would come and go fairly frequently. Logically, military force would have a relatively limited role in a cooperative multipolar system, and would probably find greater use in preserving internal order within states than in resolving conflicts between them.

In a conflictual multipolar system, military force would be used to:

- contain or deter a core state that seeks to expand its power to an extent that potentially destabilizes the system

- preserve order within a bloc or within the states that constitute a bloc
- expand the power of an aggressively ambitious bloc or state seeking leadership of a bloc

In a cooperative multipolar system, military force would be used to restrain a renegade or to reinforce the rules of the system.

The energy for change in a multipolar system would come from within the states grouped in blocs. Changes in the various publics' sense of identity would influence foreign policy and cause the coalitions in the system to ebb and flow. A changing sense of identity might cause individual states to move from one bloc to another if blocs are defined by culture or ideology rather than geography. Internal factors might also cause the weakening or strengthening of blocs, which would require the other states in the bloc to take steps either to prop them up or to contain them.

The Role of the United States

In any future international system, the American role will largely be determined by internal factors, especially success or failure at resolving key social conflicts, resuscitating the economy, and rejecting isolationism. This final element is vital. The isolationist tradition runs deep in the American psyche. The activism that began before World War II and continued to the end of the Cold War may prove to be an aberration rather than a sea change in the American strategic tradition. Thus there is always the chance that internal problems will lead us to retreat from the responsibilities of world leadership. Furthermore, failure to craft a coherent post-Cold War national security strategy will exacerbate the isolationist tendency.

What, then, are the specific implications for the US Army of each feasible type of future international system?

Unipolar Systems

Military force would have immense utility in a conflictual unipolar system. The United States would thus need a very large and mobile Army. Given our domestic demographics, this could be sustained only by a draft. Since the United States could find itself fighting relatively well-armed second-tier powers as well as preserving order on the periphery, we would need a wide range of capabilities from ballistic missile defense and conventional warfighting to foreign internal defense. The proliferation of weapons of mass destruction would elevate the importance of counterterrorism for the Army. Most important, a conflictual unipolar system probably would force the Army to undertake sustained garrison and occupation duties in other states. Typically, garrison and occupation troops are drawn either from allies or from second-quality national units. The US Army could thus find itself replicating past imperial armies from ancient Rome to modern Iraq with a clear distinc-

tion in quality and mission between first-line and second-line forces. Combined operations would not be significant.

In a cooperative unipolar system the US Army could be much smaller. It would need to retain some conventional warfighting capability to prevent the system from transforming into a bipolar one, and an equal capability for foreign internal defense and other forms of stability-building on the periphery. Unlike the situation in the conflictual unipolar system, the United States could count on allies for more enforcement actions, and thus coalition warfare and combined operations would be more important. Our role would be to provide the type of high technology, high mobility, and special capabilities missing from our allies. Traditional infantry and armor, for example, would be less significant than special operations forces, sophisticated command and control, and advanced air defense. In addition, forward presence would fully replace forward deployment as a key element of our national military strategy. Reconstitution and large-scale mobilization would not be important, so the Total Force concept would have to be redesigned. The reserve component would be focused on domestic rather than warfighting missions.

Bipolar Systems

The Army in a conflictual bipolar system would be similar to that of the Cold War. Basically, it would include two elements. One would be designed to deter, contain, and, if necessary, defeat the other superpower. This would clearly require continuation of the Total Force and demand a reserve component with robust warfighting capability. The other element of the Army would be designed to preserve order within the US bloc, and thus would stress special operations, foreign internal defense, and counterinsurgency. To phrase it differently, the Army would develop distinct high-intensity and low-intensity components. By contrast, the Army would be small and relatively unimportant in a cooperative bipolar system. We would be prepared to lead coalitions in any conflicts that occurred when diplomatic measures failed. The Army would be a highly mobile, high-readiness, but relatively small force serving as the vanguard to coalitions. Support to the UN (or its successor) would probably be significant. From a leadership perspective, the Army would be forced to deal with operations in which the United States is a secondary participant rather than the leader, thus amplifying the importance of assisting allies or friends in the training of competent leaders.

Multipolar Systems

The Army in a conflictual multipolar system also would include two elements—one to deter, fight, and defeat other core powers, and the second designed to preserve order on the periphery. Unlike a bipolar system, a conflictual multipolar system would require the Army to be prepared to fight

any one of several potential first-tier enemies, thus demanding greater doctrinal and leadership flexibility. Security assistance would be important, so the Army would need to give special emphasis to all of the various skills attendant to it. Again, the reserve component would need to preserve its warfighting capability. A cooperative multipolar system would require the smallest US Army. Most missions would entail foreign internal defense, with the occasional need to contribute to a coalition of core forces.

Conclusions

The notion of a *global* system is relatively new. Throughout most of history, the world was composed of a number of disconnected regional balances. It was thus entirely possible to have a unipolar Chinese system, a multipolar Indian system, and a bipolar Mediterranean system coexisting. The world is simply too interconnected for this to occur again. In the future, a given region may be more or less bipolar or multipolar than the global system, but the main global configuration will shape all regional systems to an important degree.

Despite the fact that the nature of the future international system will be a principal determinant of the force structure, doctrine, and missions of the Army, the Army will have only a limited role in shaping the nature of the system. As with demographics, technology, and other factors, the Army is influenced by systemic change rather than controlling or guiding it. What Army strategists must do, then, is remain vigilant for signs that the post-Cold War system is coalescing into one or another of the three broadly stated forms. Indicators of an emerging preference for a particular form could include domestic and international consensus on the guiding principles of the system, especially those concerning the acceptable use of force. Once indicators begin to appear, planners skilled at system-level thinking can begin the task of making the Army an effective organization in whatever configuration the future brings.

NOTES

1. See Samuel P. Huntington, "The U.S.—Decline or Renewal," *Foreign Affairs*, 67 (Winter 1988-89), 76-96.

2. See Charles Krauthammer, "The Unipolar Movement," *Foreign Affairs*, 70 (February 1991), 23-33.

3. The pioneering work in this field was John H. Herz, *International Politics in the Atomic Age* (New York: Columbia Univ. Press, 1959). Herz felt technology made the nation-state obsolete.

4. James N. Rosenau, *Turbulence in World Politics: A Theory of Change and Continuity* (Princeton, N.J.: Princeton Univ. Press, 1990).

5. Paul Kennedy, *The Rise and Fall of Great Powers: Economic Change and Military Conflict from 1500 to 2000* (New York: Random House, 1987).

6. Krauthammer.

7. Samuel P. Huntington, "The Clash of Civilizations?" *Foreign Affairs*, 72 (Summer 1993), 22-49.

8. Alexis de Tocqueville first noted this similarity in the mid-19th century.

9. The standard work on this notion is Robert Jervis, *Perception and Misperception in International Politics* (Princeton, N.J.: Princeton Univ. Press, 1976).

10. Karl W. Deutsch and J. David Singer, "Multipolar Power Systems and International Stability," in *International Politics and Foreign Policy*, ed. James N. Rosenau (New York: Free Press, 1969), pp. 315-24.

JFACC: Key to Organizing Your Air Assets for Victory

JEFFREY E. STAMBAUGH

Examining the plans for America's aviation forces, Senator Sam Nunn, Capitol Hill's recognized defense expert, ignited a firestorm by asking if the United States needed and could afford its "four air forces." While few military professionals will have much of a say on the larger issues of roles and missions that underlie Senator Nunn's questions, those who aspire to command forces in battle must consider a parallel issue. The services are locked in a debate over the purpose and functions of the Joint Force Air Component Commander (JFACC). While the debate addresses roles and missions, its significance lies in the fact that its outcome will influence the effective use of airpower in combat. Prospective joint force commanders must therefore understand the JFACC debate and know how to organize air operations before the drums of war begin to beat. This article looks at the background of the JFACC concept and then addresses a major point of disagreement: whether the JFACC commands or coordinates the CINC's air component. Finally, it will outline a role for the JFACC in a joint operation, equal in contribution and importance to ground and naval commanders.

JFACC Background

The JFACC concept is a simple one. First, it involves a joint force, one composed of forces from more than one service. Second, the JFACC, in the person of the officer in charge, is an "air component commander." Essentially, the JFACC runs the entire air operation for the joint force commander. Since it was codified into joint doctrine only with the publication of Joint Chiefs of Staff (JCS) Pub 26 in 1986, the position and responsibilities of the JFACC are relatively new.[1]

The nature of warfare, the airpower assets of the different services, and airpower doctrine all drive the need for a JFACC. Joint operations are the norm rather than the exception for the foreseeable future.[2] Air warfare is

probably our most joint current medium. Here's what the Department of the Navy recently said about airpower: "Joint operations between naval and Air Force strike assets—including carrier-based aircraft, land-based naval expeditionary aircraft, land-based Air Force aircraft from both local and distant bases, and Tomahawk missiles from surface and attack submarines—have become standard."[3] It should also be clear that the ability of US forces to operate successfully in combined operations is directly related to our skill in conducting joint operations.

From a sheer numerical perspective, the Navy and Marine Corps bring a lot of airpower to the joint force. In Desert Storm Navy and Marine Corps aircraft constituted about 33 percent of the US air armada and dropped about 28 percent of the total US weapons' tonnage during the war.[4] Therefore, a failure to successfully integrate the airpower of all services represents a serious loss to the joint force.

According to USAF doctrine, a tenet of aerospace power is that airpower assets are theater assets and should be centrally controlled by an airman.[5] While not everyone accepts it, this tenet is firmly based on historical experience. It is also at the heart of the JFACC concept. The Allied campaign in North Africa during World War II began with airpower parceled out to various commanders, including ground commanders. The limitations of this arrangement quickly became apparent, particularly during the battle at Kasserine Pass. During the 1943 Casablanca Conference, Roosevelt and Churchill approved a new command structure that centralized control under an airman.[6] This new concept quickly found its way into Army doctrine: "Control of available airpower must be centralized and command must be exercised through the air force commander if this inherent flexibility and ability to deliver a decisive blow are to be fully exploited."[7] As Supreme Allied Commander in Europe, General Eisenhower invoked this new doctrine by insisting upon a single air commander reporting directly to him.[8]

As aviation forces shrink, common sense says we need centralized control. For example, the vast majority of fuel offload capability resides in USAF tanker aircraft. The same applies for aerial surveillance capability. Clearly, we need an integrated air plan if the Navy and Marine Corps are to receive adequate support from USAF tankers and surveillance aircraft. More-

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"Prospective joint force commanders must understand the JFACC debate and know how to organize air operations before the drums of war begin to beat."

over, the Navy and Marine Corps maintain superb electronic warfare aircraft that the Air Force would like to integrate into the theater plan for such assets.

This mixing and matching of assets points out a key characteristic of airpower—its seamless nature. Battle lines can be easily drawn for ground forces, but that's not so with air forces. Air assets can launch from bases hundreds of miles apart and simultaneously converge on a target. Those same forces can repeat that performance only a few hours later on another target located hundreds of miles from the previous target. Obviously, optimum use of such assets demands a theater view.

Furthermore, centralized JFACC control of these theater assets allows their integration in the joint force commander's campaign plan. The JFACC develops the air portion of the campaign and applies the available assets to achieve the desired effects. Centralized control enables a level of asset integration not otherwise possible.

Because the logic seems so compelling, it may be incredible to an outsider that the three services did not cooperate on this point in the past: not in Korea and most certainly not in Vietnam. As the United States entered the 1990-1991 Persian Gulf crisis, the JFACC concept flew into an uncharted, and possibly hostile, environment.

In accordance with joint doctrine, General Schwarzkopf, the joint force commander in the Gulf War, appointed Lieutenant General Charles A. Horner, the CENTAF commander, as the JFACC. And whatever the assessment of the air campaign prior to land combat, and the support of the ground forces during the 100 hours, one aspect of air operations is clear: the JFACC process had its difficulties. Of the many problems the JFACC would encounter, none was more troublesome than the attitudes of the services.

The Navy and Marine Corps entered the JFACC process reluctantly. Senior Navy commanders vigorously opposed working in a joint operation, especially with an Air Force general in charge. Three months into Desert Shield, with war a mere two months away, the Navy was still searching for a way to sink the JFACC.[9] If the Navy fought the idea, the Marine Corps was downright defiant. Marine headquarters addressed messages to the "Joint

Force Air *Coordinator*."[10] The USMC air component commander during Desert Storm made it clear in a postwar interview that he viewed General Horner as only a coordinator and that Marine air worked primarily Marine targets.[11] The Air Force bears partial responsibility for the air of discontent because it dealt high-handedly with the other services on occasion. Had it not been for General Schwarzkopf's firm support for the JFACC, the integrated air plan that severely damaged the Iraqi forces might have been the first casualty of the conflict.

Though handicapped by interservice disagreements, Horner held two aces at the operational level that overcame these problems and kept the disagreements out of the public's eye. First, General Horner had an abundance of assets available to conduct his air war. Second, the Coalition initiated hostilities at its choosing, then pounded the enemy for 38 days before beginning the ground war, which it again began at the time of its choosing.

In reality, Horner had a surplus of aircraft under his direction. In October 1990, when asked by President Bush what additional forces he would need to conduct offensive operations to oust Iraq from Kuwait, Schwarzkopf requested two armored divisions. When President Bush authorized the reinforcement he gave Schwarzkopf almost double the ground forces Schwarzkopf had requested *plus* 300 additional USAF aircraft and two more aircraft carriers.[12] The initial plan for the air campaign assumed 700 attack sorties each day for the first six days, subsequently dropping to 100 per day. Horner's air forces actually flew 1200 attack sorties per day at the outset of the campaign. The lowest daily sortie rate, the result primarily of poor weather, was still over 200. During the ground phase, the Coalition flew over 1700 attack sorties daily. This overwhelming force allowed all phases of the air campaign, which had been planned for sequential execution, to run concurrently.[13]

The other significant advantage for the prosecution of the air campaign—the total control held by the Coalition over the timing of the war's phases—provided several advantages. The commanders knew the air campaign would run for more than a month before ground action would begin. This knowledge allowed time to conduct strategic attacks in Iraq and begin to shape the battlefield. And although some ground commanders may have been uncomfortable with some of Horner's actions, Schwarzkopf felt that his instructions were being followed.[14]

The abundance of assets and the complete retention of initiative meant that the hard choices a JFACC could expect—that the JFACC was designed to deal with—simply did not arise. The ability to address everyone's needs overcame philosophical arguments about the best use of airpower. There was no bloodletting when the Marine Corps initially dedicated 50 percent and eventually almost all of its sorties to preparing the battlefield in front of Marine forces because the JFACC still had sufficient theater assets

to meet other requirements.[15] Similarly, after the ground war had begun, the ground commanders could not complain about inadequate air support, because they received virtually all the Coalition had.

Desert Storm clearly represented a JFACC concept in its infancy. The Iraqis were foolish to allow the Coalition to dictate the war's timing and pace. The United States cannot count on foolish enemies and an abundance of airpower in the next war, however. The future can only be tougher for the JFACC, and the concept must move forward from its Gulf War experience.

The JFACC: Commander or Coordinator?

The most important issue, underlying all the other controversies, is the proper role of a JFACC: does the incumbent coordinate the use of separately commanded air assets, or does the JFACC command the joint air effort?

The idea of losing control of its assets is anathema to any service. During Desert Storm the Navy's real fear was that USAF officers would misuse their assets, not necessarily out of maliciousness, but out of ignorance.[16] In the same way, the Marines were concerned that air support would not be available when and where needed if they were to lose control of their aviation assets.[17] Even the Air Force is not above this concern. Going back to World War II, significant resistance to General Eisenhower's desire to establish a single air commander controlling all allied aircraft came from senior officers of the US Army Air Forces. They feared that the British officer likely to be named the air commander would misuse the rapidly maturing B-17 strategic bombing force.[18] No one is immune to the fears of losing control. To its credit, the Air Force strongly supports the doctrinal consensus that the JFACC should come from the component providing the greatest share of the air assets, and acknowledges that the JFACC need not always be an Air Force officer.[19]

While each of the services struggles with the idea of being controlled by an officer from another branch, the Marines are the strongest and most vocal opponents of the JFACC as a commander. This concern is not new; the Marine Corps addressed the issue when JFACC doctrine was under development.

In 1986, the JCS released an agreement entitled the "1986 Omnibus Agreement for Command and Control of USMC TACAIR [tactical aircraft] in Sustained Operations Ashore" simultaneously with its release of the new JFACC doctrine. The Omnibus Agreement sought to calm Marine fears over loss of control of Marine air. The Omnibus Agreement reads in part:

> The Marine Air-Ground Task Force (MAGTF) commander will retain operational control of his organic air assets. The primary mission of the MAGTF air combat element is the support of the MAGTF ground element. During joint operations, the MAGTF air assets will normally be in support of the MAGTF mission. . . . Nothing herein shall infringe on the authority of the Theater or Joint Force Commander, in the exercise of operational control, to assign missions, redirect efforts. . . .[20]

It is important to understand that the second sentence of the Omnibus Agreement summarizes Marine Corps doctrine concerning their air assets. Marines make no bones about the purpose of Marine air—to support the Marine ground combat element.[21] Interestingly, Marines do subscribe to the theory of centralized control, but that centralized air commander always reports to the MAGTF commander.[22] The real difference is that Marines believe Marine air should work for the Marines rather than supporting the joint force as a whole.

Marines have logical reasons for their retention of firm control over Marine air. First, Marine ground forces are relatively light on organic firepower (tanks and artillery). Thus, their aviation element provides needed additional firepower. Second, the aviation and ground elements train together; consequently Marines assert that their pilots can provide the best support for Marine ground forces.

Having discussed the Omnibus Agreement from the Marine perspective, we must also look at it through the joint force commander's eyes. First, and most important, the Omnibus Agreement firmly acknowledges the joint force commander's right and responsibility to organize the joint force however he deems best. Thus, should the joint force commander choose to give the JFACC operational control of Marine air, a concept that will be more precisely defined below, he would *not* violate the Omnibus Agreement. Second, it does not necessarily follow that such a choice would ignore the valid Marine concerns underlying the Omnibus Agreement. Under current joint procedures and assuming reasonable commanders, Marine air would still support Marine ground troops to *exactly* the level the joint force commander and land component commander deem appropriate. Finally, deciding how best to handle Marine air is "situation dependent," and it may be one of the joint force commander's toughest calls. Here are a few of the factors and issues that will influence the joint force commander's actions.

- When Marine Corps forces operate as a part of a large joint force operation, are they really acting as a MAGTF or are they simply another maneuver unit? For example, Marine forces ashore in Desert Storm were not an independent task force. Major ground combat units of other Coalition members flanked them on both sides. Furthermore, the Army's Tiger Brigade of the 2d Armored Division augmented the Marines.[23] When Marines are not truly operating as a MAGTF, do the terms of the Omnibus Agreement apply?
- The joint force commander has more thorny problems. Why do the Marines get their own air support when every other ground force commander has to compete for theater assets? After all, what ground commander would not want dedicated air assets whose sole mission was to support only his forces? Furthermore, are Marine units the lightest in terms of firepower, or could US Army light infantry forces claim that dubious distinction?

• The Omnibus Agreement discusses the release of "excess" Marine sorties, but the joint force commander has to be realistic. To a ground commander staring an enemy in the face, there is no such thing as an excess sortie. While it looks a bit ridiculous in hindsight, some ground commanders bitterly complained that they were not receiving adequate air support to prepare the battlefield during Desert Storm.[24] Therefore, if the exceptions contained in the Omnibus Agreement do apply to Marine units operating in a coalition or joint operation, joint force commanders should not expect Marine commanders to volunteer much of their air element for use at the theater level.

• Joint force commanders must prepare themselves to make hard choices using the Omnibus Agreement. What if, assessing the ground situation, the joint force commander decides that the Marine commander needs little, if any, air support to achieve the joint force commander's objective? Worse still, what if the Marine ground commander has a genuine need for all the support Marine air could provide, but another ground commander needs the airpower more? In peacetime, the answers may be easy and obvious. In wartime, not only will these be tough judgments, they will be controversial and emotionally charged.

Under current joint doctrine the authority and command level of the JFACC is strictly up to the joint force commander. In fact, current doctrine does not *require* that a JFACC even be established. However, as was noted earlier, joint force commanders who want to use their air power properly will probably want to establish a JFACC. The JFACC provides unity of command over the air effort. The JFACC keeps the assets focused to achieve the campaign objectives specified by the joint force commander. Moreover, the JFACC brings the knowledge and experience required to coordinate and integrate all air assets in a campaign plan. While the turmoil surrounding application of the JFACC concept to the hard realities of combat might be dismissed as "joint growing pains," consider this analogy. Would soldiers be comfortable executing a scheme of land warfare designed and controlled by an airman acting as the land component commander? Of course not, and that's why airmen look to another airman, the JFACC, to plan and control the air operations.

Before examining the relationship between a joint force commander and his JFACC, a few definitions are important. The idea of command under joint doctrine is a multi-layered affair, but two aspects of it are sufficient here to get to the heart of the JFACC challenge. Operational control (OPCON) of an organization entails virtually total control of it. Joint force commanders and service component commanders normally exercise operational control over assigned assets. Tactical control (TACON), on the other hand, allows detailed direction of operations to accomplish missions without assigning full control of any organization so designated.[25] The difference, however slight to those not accustomed to interservice operations, is a crucial one in combat.

Joint force commanders can be expected to give their JFACCs tactical control of service air elements. The initial draft of Joint Pub 3-56, *Command and Control Doctrine for Joint Operations*, states that the joint force commander may give the JFACC operational control, but notes that usually tactical control is sufficient to manage the air campaign.[26] The Air Force also believes that tactical control is the appropriate level of JFACC authority.[27] From the perspective of those who fly the aircraft, tactical control tells the various air assets where to fly, when to fly, and what to do while aloft. The JFACC should generally not need authority beyond this on a daily basis. Certain issues would require either that the JFACC negotiate directly with other commanders or that the joint force commander become involved. For example, when the JFACC has only tactical control authority, he cannot tell a unit how many sorties to fly. Should the JFACC want a unit to fly more sorties than proposed by the commanders of the air assets, the JFACC would have to negotiate with the commander who has operational control of the units to obtain the additional sorties.

Given that the JFACC has tactical control of air assets, the JFACC should normally control all fixed-wing assets operating in the joint force operating area with these exceptions (note—for this and all following discussions the focus is on scenarios with significant land operations):

- sorties required by the naval component commander to perform maritime missions, to include defense of afloat forces
- USMC air when Marine ground/amphibious forces are operating independently from the rest of the joint force
- special operations aircraft when performing special operations missions

The JFACC should normally control only limited numbers of helicopters. There are two reasons for this exception. First, because helicopters do not possess the speed and range of the other air assets, they are not truly theater assets in terms of reach and effect. Second, attack, observation, and most utility helicopters directly support the ground scheme of maneuver and are best left under the control of the ground commanders. This is not to say that the JFACC could not use these helicopters in certain situations. With regard to helicopters, however, the JFACC will usually need to control only search and rescue helicopters.

Airpower is more than aircraft, of course, and the JFACC has a legitimate interest in those other assets too. Although employment of the Navy's Tomahawk land attack missiles (TLAMs) probably should fall under the JFACC, control of Army tactical missiles (ATACMS) requires more thought. The JFACC can build a strong case for controlling at least some of the joint force's ATACMS, but on a case-by-case basis rather than as a doctrinal matter. Nevertheless, assets with theater reach (range and effects)

that do not by doctrine fall under JFACC direct control should coordinate with the JFACC to the maximum practical extent.

JFACC's Role As a Commander

Having appointed a JFACC to command the air effort, the next issue is to establish the JFACC's role within the joint campaign. Again, the focus is on a theater campaign where land operations predominate over maritime operations. Nonetheless, certain features of the following discussion are relevant to campaigns in which maritime forces predominate.

The joint force commander should first make the JFACC responsible for control of the air. This obvious beginning point is readily accepted. This requires coordinating the activities of Army surface-to-air missile units with those of US and allied aircraft in the theater. The mission of tactical ballistic missile defense is still evolving, but the JFACC will likely emerge as the overall commander of that effort.

A second job for the JFACC is air support of engaged forces. The JFACC and staff can aid the engaged commanders by advising them on how best to apply the airpower apportioned for direct support missions. To preclude any semantic quarrels, "direct support" simply means sorties flown either to aid forces engaged in close combat or to strike targets that, while not currently engaged in combat, will have a near-term effect on the battle. The JFACC also complies with the joint force commander's apportionment direction and assigns the prescribed percentage of sorties to provide direct support. Furthermore, the JFACC maintains the command and control means that are used to provide air support to engaged forces.

Here we need to consider an aspect of emerging joint doctrine that overshadows the previous two issues in its potential effects on the concept of a "supported commander" in a theater. A statement published by the Chairman of the Joint Chiefs of Staff in 1992 provides guidance for joint doctrine under refinement or development. The statement uses the term "supported commander" to suggest that battlespace allocation can include assigning responsibility for certain parts of the theater to commanders subordinate to the joint force commander.[28]

The term "supported commander" carries considerable weight under joint doctrine. Normally this term applies to the commanders-in-chief of unified and specified commands—now termed combatant commanders—or occasionally to joint force commanders.[29] However, General Powell's 1992 statement used the term supported commander in reference to the subordinate land, naval, and air component commanders operating under a joint force commander. From context, it appears that "supported commander" now includes the functional or component commander within a joint force assigned primary responsibility within a specified zone or task.[30]

"The JFACC alone can conduct significant combat operations in areas that lie beyond the limits of Army or USMC commanders."

The 1992 statement then couples the idea of supported commander with partitioning the theater. According to the doctrinal statement, "The Joint Force Commander may define lateral, rear, and forward boundaries that are sized, shaped, and positioned to enable land or naval forces to accomplish their mission while protecting deployed forces." Such areas would then become the responsibility of the supported commander.[31] Existing joint and service doctrine both support and condemn this partitioning.[32] Whether it is a good idea remains untested and hence unproven.

In view of all this, the JFACC could assume a new, vital role as the JFACC should be the supported commander for any areas not otherwise assigned to another component commander. Perhaps the strongest argument for this is common sense; the JFACC alone can conduct significant combat operations in areas that lie beyond the limits of Army or USMC commanders. While the idea of an airman as a supported commander may seem revolutionary, in reality there is increasing support for this idea from a number of sources. Two publications from the Joint Staff, as well as the Chairman's 1992 doctrinal statement, identify the JFACC as either the individual normally responsible for interdiction or as the supported commander for that task.[33] General Powell's statement also labels the JFACC the supported commander for strategic attacks.[34] Moreover, this idea is already at work in Korea. US Forces Korea developed a concept called the "Deep Battle Synchronization Line (DBSL)." The concept has two main features: first, the deep battle addresses all operations beyond the immediate vicinity of friendly ground forces, and second, the JFACC is responsible for the deep battle.[35] The Army's latest FM 100-5 adds veiled support to this concept by somewhat loosening the tie between the deep and close battle.[36] Major General L. D. Holder, in a recent *Military Review* article, called this "radical stuff" and noted with concern the possible doctrinal implications for joint operations.[37] Thus, the idea of the JFACC as a supported commander, responsible for the areas outside the proximity of friendly forces, appears obvious and sound. There is, however, a hitch.

The problem of where to draw the dividing line between the various commanders immediately arises. The Army believes the deep battle to be extremely important and plans to fight the deep battle.[38] Appropriately, no strict mileage definitions exist for how "deep" the deep battle goes. Rather,

the deep area extends to at least where events may affect the close battle within the 72 hours following the assessment.[39]

No matter the exact definition, the Army needs airpower to fight much beyond its own position. Cannon and rocket artillery can fire only about 12 and 20 miles, respectively. Although the ATACMS is truly a deep weapon, the total buy of ATACMS is only programmed to be 2000 missiles.[40] Thus, the JFACC could match the firepower of the entire ATACMS force with only 500 F-16 sorties. The ATACMS is a welcome addition to the arsenal with its responsiveness, range, and lethality. However, you cannot plan to fight much of a deep battle with ATACMS alone.

The Army also talks of using its aviation forces, both to insert ground forces or as stand-alone attackers, to fight the deep battle. However, Army doctrine also uses terms like "very complex" and "significant risk" to describe the use of its aviation assets in the deep battle.[41] Thus, the vast majority of firepower capable of going deeper than 20 miles will most likely be fixed wing. Considering firepower and the Army's desire to plan 72 hours in advance, a line drawn beyond the ground forces' present position to where they will be conducting significant combat operations in 48 to 72 hours seems a logical place for the boundary. Rather than a set mileage, the line must consider factors like the enemy, friendly objectives, terrain, projected versus actual rate of advance, and weather. According to General Powell's statement, variables like the operational environment and actual versus projected rates of maneuver drive the revision of the boundaries.[42] At a minimum, the joint force commander should review the boundaries daily.

This idea of naming functional or component commanders as supported commanders does not change the joint force commander's role. First, the joint force commander and his staff develop the campaign plan. From that plan, the joint force commander establishes objectives for each subordinate commander. Second, only the joint force commander can ensure the synchronization of the air, land, and maritime operations plans.[43] The apportionment decision represents a tremendous synchronization opportunity and is a clear communication of the joint force commander's priorities. Finally, the joint force commander must personally intervene in campaign planning when necessary. For example, the Air Force's initial draft for the Desert Storm air operations plan did not include daily attacks against the Iraqi Republican Guard; that changed immediately after the Air Force briefed General Schwarzkopf.[44]

One of the joint force commander's staff elements, the Joint Targeting Coordination Board (JTCB), should be examined carefully. This board provides a forum within which each service can nominate targets for inclusion in air operations,[45] a process that is of great importance when there are fewer aircraft available than target opportunities. If the JTCB works directly for the joint force commander, the latter must limit it to broad guidance lest it usurp the prerogative and responsibility of the JFACC. If the JTCB issues detailed

guidance, essentially telling the JFACC exactly which targets to strike, the JFACC truly would become a mere coordinator. In those commands in which the JTCB works directly for the JFACC there is slight chance of conflict.

The joint force commander and subordinate component commanders must understand how best to integrate their allocated direct support sorties into their operations. When direct support sorties are aiding ground troops engaged in close combat, the ground forces should continue to select the specific targets for aerial attack. However, as the distance from friendly forces increases, commanders should shift to mission-type orders. Using this idea, the supported commanders and joint force commander describe the desired effect, and the specific targeting is left to the JFACC staff. Army and joint doctrine both prefer mission-type orders in the latter case.[46]

Of course, this means the JFACC staff must be capable of effectively targeting the air assets to achieve the desired effects. To facilitate this, the JFACC staff should be truly joint, melding in experts on ground and maritime warfare.[47] A key contributor to this "jointness" already exists—the Army's Battlefield Coordination Element (BCE). The BCE acts as the Army Component Commander's liaison with the JFACC and staff and, interestingly, performs many of the functions mentioned for the JTCB. Ideally, the BCE would represent all land forces rather than having multiple service/nation coordination cells. The BCE, particularly because of the expertise it offers, will grow even more important under this proposal. Moreover, airmen themselves will need to learn more about the other operating environments to fully exploit airpower in joint warfare.

Conclusion

One of the first challenges a joint force commander will face is how to organize his air assets: a joint force needs one airman in charge—the JFACC. Making such a decision will likely create controversy, particularly if Marine air is involved. But organizing to win is more important than the absence of interservice controversy. Opting for a strong, empowered Joint Force Air Component *Commander* under current and emerging doctrine regarding supported commanders in a joint operation is a first, and essential, step toward victory.

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Commentary & Reply

SOMALIA JUDGMENTS AND JUDICIARY

To the Editor:

I was in Somalia in April 1993, as a special consultant to the State Department on how to rebuild the Somali national police and judiciary. I was fascinated by the three articles on Somalia in your Winter issue because they offer different perspectives on the critical issues of mission creep, disarmament, reestablishing law and order, and the lessons to be learned. ("A Power Projection Army in Operations Other than War" by S. L. Arnold and David T. Stahl; "Law and Anarchy in Somalia" by F. M. Lorenz; and "Testing the World's Resolve in Somalia" by Walter S. Clarke)

First, many of the problems of UNITAF and UNOSOM arose because the initial UNITAF area of operations covered only the southern portion of Somalia. There was no effort made to treat the country as a whole or at least project some presence throughout Somalia. Thus, warlords in the UNITAF and UNOSOM sector became more important than they really were in Somali politics. Conversely, those areas where there was relative security outside the UNITAF/UNOSOM area did not receive assistance to maintain and build upon that security.

Second, from a planning viewpoint, if there was widespread fighting in Mogadishu for the two years prior to US intervention, and much less armed strife in the rest of Somalia, why concentrate Operation Restore Hope in the center of the armed conflict? If the initial goal was humanitarian relief to the Triangle of Death, then using the port of Chismayo would have accomplished that purpose without inserting UNITAF and UNOSOM in the middle of what was essentially a power struggle between two warring factions. In situations of total anarchy and governmental breakdown, the capital of a country that has ceased to exist as a nation should not automatically be selected as the center of operations.

Third, once US troops are committed to an area and are threatened, the response to their security should not be dictated by political concerns. My understanding is that the US Marine contingents billeted at the old soccer stadium were under daily sniper attacks, presumably by members of Aideed's militia. Aideed put a price on the heads of some of the Somali translators serving with the Marines and Radio Aideed broadcast anti-American and anti-UNOSOM propaganda. These hostile actions should not have been tolerated and appropriate military responses should have been allowed. The lesson to be drawn is that if US forces are committed, they must be permitted to take the action necessary to protect their security. It is highly likely that Aideed drew the lesson that by dealing with the civilian political side which was anxious to gain his cooperation as a "major warlord," he could avoid retribution for his military activities.

Fourth, General Arnold and Major Stahl make the point that although the initial mission was to provide a secure environment for the delivery of humanitarian relief, many units engaged in disarming warring factions. Professor Clarke states that Operation Restore Hope was always more than a simple humanitarian operation. Both

statements illustrate that there was never a razor sharp line between safeguarding food supplies and providing security to a helpless population. The fear of mission creep served to blind us to the obvious, that security was essential for a successful exit strategy and that meant disarming all of the factions of heavy or crew weapons. In fact, the Somalis, including Aideed, agreed at the March 1993 Addis Ababa meeting to disarm within 90 days. All we had to do was offer UNITAF/UNOSOM as the neutral mechanism to help them carry out what they had agreed to.

Fifth, although as General Arnold and Major Stahl point out, there was some effort by military police to proyide law enforcement support, not enough attention was given to the need to rebuild the Somali police force. In any future operations, this should be given priority attention. In Somalia, the police could have become the unit to take over providing road security from highway robbers and bandits, contributing to the restoration of commerce and the generation of revenues to pay for civilian government functions. The police also had the capability of beginning the process of disarming individual Somalis. However, order without law is tyranny and equal emphasis has to be given to the restoration of the judicial system. Given the anarchical situation in Somalia, greater use of foreign military judges to supplement a skeletal judiciary would have helped to restore security more quickly and reestablish the rule of law. While this may seem more like nation-building than providing humanitarian assistance, in a civilized society one cannot deal with bandits stealing food without the presence of a judiciary.

Finally, some consideration should be given to how to improve the UN's capability to accept a handoff from the United States or UNITAF. In Somalia, the lack of English-speaking UNOSOM troops and the failure of UNOSOM to hire Somali translators who had capably served with US forces foreshadowed serious problems of misunderstanding between UNOSOM troops and Somalis.

Martin R. Ganzglass
Washington, D.C.

F. M. Lorenz Replies:

I met Mr. Ganzglass during his visit to Somalia in April of 1993 and I appreciate his insight into conditions in that country. He was a Peace Corps volunteer there in the 1960s, and helped establish the police force. He is the author of the only complete treatise, in any language, on the Somali Criminal Code, and few outsiders have his long-term perspective on the politics and legal system of Somalia.

The decision to limit UNITAF operations to the southern portion of Somalia was made by the National Command Authorities based on the terrible conditions in that part of the country in November of 1992. Starvation and banditry were centered in the south central area, and that became the focus of effort. There were, and still are, deep divisions between northern and southern Somalia. It now appears that Somalia may split into two nations even before the current crisis is over. Trying to mend those divisions with power projections in the north as well as the south would have been difficult, given the limited time and resources available to UNITAF.

The decision to concentrate Operation Restore Hope on Mogadishu was made after a careful review of alternative courses of action. Having participated in the crisis action planning process in November 1992, I can state that Mogadishu was not "auto-

matically" selected as the center of operations. The use of Kismayo (Chismayo) as the primary port of entry was rejected after thorough analysis. The Port of Kismayo has limited pier facilities, and the channel depth was determined to be too shallow to admit the deep draft vessels that would be essential to sustain the planned force. Relief shipments were heavily dependent on the Port of Mogadishu; by securing it for UN purposes we would reduce risk to the relief shipments. Leaving Mogadishu, the only modern port in the country, in the hands of the bandits made no sense. The only airfield in southern Somalia that would admit C-5 aircraft was at Mogadishu, and without the C-5, UNITAF logistics would have been severely hampered. Furthermore, a decision to "bypass" Mogadishu would have placed the Pakistani peacekeepers, who then had a tenuous hold on Mogadishu Airport, at great risk of retaliation by the hostile factions in Mogadishu. It quickly became apparent that Mogadishu was the center of gravity for the area of operations, and it would have to be taken and secured to ensure the success of the mission.

Another point by Mr. Ganzglass is the proposal to use foreign military judges to supplement the Somali judiciary. This proposal was included in the UN plan for the restoration of the judicial system. In April 1993 I discussed this proposal with Somali jurists representing the two major factions, and they were adamantly opposed to foreign judges in anything more than an advisory capacity. In June and July 1993 the proposal to use foreign military judges was adopted by Aideed as a major propaganda item. He maintained that it demonstrated the UN intention to control or colonialize Somalia. The proposal may have been good in theory, but it contributed to a deterioration of relations between the United Nations and the Somali people, at least those in Mogadishu under the influence of Aideed. I am now convinced that the country is not yet ready for judicial reconstruction, in the absence of some degree of political stability.

Colonel F. M. Lorenz, USMC

BRICKBATS FOR "LESSONS FROM EL SALVADOR"

To The Editor:

Articles about the Salvadoran Civil War published in *Parameters* reflect the growing realization in the US armed forces that something of real political and military significance occurred in El Salvador over the past decade. However, Lieutenant Colonel Victor M. Rosello's "Lessons From El Salvador" (*Parameters*, Winter 1993) would be more enlightening if some contextual material were provided along with his observations.

Absent broader references than Colonel Rosello's pocket notebook, there appear to be factual inaccuracies and omissions in his recollections. For example, advisors did not "normally" drive "armor-plated, bullet-proof" vehicles in El Salvador. The fall of the Berlin Wall, not the invasion of Panama, first seized the media's attention from the FMLN's November 1989 "Final Offensive." The assassination of six Jesuit priests on the orders of a Salvadoran army colonel, and the arrest of Sister Jennifer Casolo for aiding the FMLN, brought the reporters back. Nor has the media forgotten the war, as shown by recent front-page and cover stories on atrocities there in *The New York Times* (14 December 1993) and in *New Yorker* (6 December 1993).

There seem to be glaring contradictions in the article as well. Was there a "non-stop flow of volunteers" from 1981 to 1992, or did the "pool of volunteer[s] . . . dry up" around 1986? Was advisor duty "prestigious" throughout, or was the war "highly unpopular" and did unspecified "recognition" lessen over time? Was there no US or Salvadoran strategic plan, or were there several—as mentioned in the author's own footnotes? (The referenced "Four Colonels' Report" cites two additional plans the author ignores.) Were US advisors the "most positive and effective" element of military aid, or is this "difficult to prove?" Were FMLN operations after 1987 "needless," or did they help the FMLN emerge as the "undeclared winner?"

The author's arguments, without amplifying evidence, do not justify his sweeping conclusions. How did he determine the "single piece of advice" from the Salvadoran war to be that "[d]irect US combat intervention in foreign civil wars should always be the last option exercised," when there was no such US action in El Salvador? How did El Salvador become an "unqualified success" in terms of "US regional objectives," if there was a "lack of a clear US national strategy?" If his judgment of his MLGP peers ("some high quality . . . some marginal") might describe any US brigade's officers, why does he render it at all? Since the author worked with the national military staff, why is he at a loss to explain the lack of "professional advice at the operational and strategic levels" from his fellow Americans—and presumably, himself as well? Most unfortunately, the author seems to endorse the accusations of unidentified Salvadoran officers (aggrandized as "the ESAF"), labeling unnamed US advisors as somehow "self-serving," and faulting an unmentioned US strategy as "impeding" Salvadoran military planning. He thereby assumes the role of apologist for those Salvadoran officers and their questionable conduct of the war. If intentional, this is a disservice to the 4000 US Army, Air Force, Navy, and Marine personnel who served in El Salvador and successfully prevented an armed communist takeover there—20 of whom lost their lives in a war without a code-name or campaign ribbon.

Veterans and observers of the Salvadoran Civil War will likely agree that there are valuable foreign policy and doctrinal military lessons to be gleaned from our experience in that 12-year-long war. Insightful essays include Lieutenant Colonel Michael J. Hennely's "US Policy in El Salvador" (*Parameters*, Spring 1993), Lieutenant Colonel Michael A. Sheehan's "Comparative Counterinsurgency Strategies" (*Conflict*, 1989), Colonel John D. Waghelstein's Army War College paper "El Salvador" (1 January 1985), and Brigadier General Mark R. Hamilton's unpublished letters analyzing the war. Study of these sources, along with consideration of Lieutenant Colonel Rosello's opinions, can enhance assessment and speed recognition of the US military's impact on a conflict that may typify future regional wars, and how we can best fight in them.

Lieutenant Colonel Kalev I. Sepp
Harvard University

The Author Replies:

In my references to the "defensive" nature of "armor-plated" Jeep Cherokees, bodyguards, and types of weapons issued, I hoped to focus on the obvious irony of Salvadoran advisory duty vis-à-vis its designation as a non-combat

tour. USMILGP El Salvador's small and aging fleet of armor-plated vehicles was generally limited to use by US military personnel in San Salvador proper; in addition many US personnel also drove leased Nissans, Mitsubishis, or Toyota 4x4s.

I still contend that the US invasion of Panama in 1989 was the most significant event in this hemisphere temporarily drawing media attention away from combat reporting in El Salvador. Similarly, after *Just Cause* El Salvador stopped being the "only war in town" for the largest resource pool of volunteers, the US Army's 7th Special Forces Group. As to be expected, after serving a combat tour during *Just Cause*, Salvadoran duty was no longer perceived as career-enhancing, rewarding, or even prestigious. This did affect the quality of volunteers.

The US-inspired *National Campaign Plan* (NCP) followed by *Unidos Para Reconstruir* (UPR) were the two short-lived civil-military campaign plans developed during the conflict that included specific military objectives and milestones for waging the Salvadoran counterinsurgency. Although seriously flawed, these two campaign plans provided a means for linking tactical operations and civic action with Salvadoran strategic political objectives. On the other hand the Woerner and the Kissinger commission reports were US strategic assessments that evaluated the political and social conditions in El Salvador. These assessments ultimately shaped a US regional policy that directed the restructuring and reformation of the ESAF and government of El Salvador through military and economic assistance, eventually to the tune of six billion dollars. The political objectives derived from the Woerner and Kissinger reports were not translated into a clearly defined strategic vision, a military strategy, or even an end state altogether. To the credit of the Salvadoran government, the success there may have resulted more from Salvadoran initiatives than from any US vision.

US military advisors were a positive element in improving ESAF combat capabilities through effective training assistance. Although a case can be made that the US advisory program may also have had a lasting influence on ESAF behavior and overall professionalization (an opinion shared by the FMLN leadership), "no studies have been conducted to assess this seeming transfer of values." In my opinion (based on observations and comments from the ESAF) the inconsistent quality of US military advisors may have had a less-than-positive influence on ESAF professionalization, not on the effectiveness of imparting basic combat skills. Although this observation might describe "any US brigade officers," I render it because military advisors ought to be held to a higher standard. Marginal officer performance in military assistance missions is counterproductive, harming the overall effort to professionalize or positively influence a foreign military.

As for FMLN operations, after 1987 they were tactically significant but strategically inconsequential in achieving the military objective of defeating the ESAF.

The paucity of professional military accounts emanating from El Salvador is unfortunate. Colonel Sepp gets to the heart of the problem in his list of essays, which includes information from 1984 (Colonel Waghelstein's) and even unpublished letters (General Hamilton's). As noted in my article, "an inclusive study or in-depth analysis of what was achieved" still needs to be completed. Dialogue like this—and, yes, pocket notebooks—also help to keep El Salvador's lessons from eluding us.

Lieutenant Colonel Victor M. Rosello

Book Reviews

Who Will Fight the Next War? The Changing Face of the American Military. By Martin Binkin. Washington: The Brookings Institution, 1993. 179 pages. $31.95. **Reviewed by Lieutenant General Frederic J. Brown, USA Ret.,** author of *The U.S. Army in Transition II: Landpower in the Information Age.*

This is an important book. Martin Binkin (and his sponsor—The Brookings Institution, a solid Democratic think tank) has been a thoughtful and informed commenter on three important challenges to military unit readiness for 15 years. In this work, he updates previous books on reserve force readiness, women in the military, and blacks in the military, based on the experience of Desert Shield and Desert Storm. The conclusions are noteworthy because of their balance. With respect to women—and the perception that equal opportunity may conflict with the requirements of national security—Binkin promotes cautious acceptance of a gradual opening of positions. With regard to African-Americans, if the percentage in the enlisted force is too high, that situation is not correctable soon because the military provides genuinely important job opportunities. On reserves, he cautions us about the use of Army National Guard combat units; that political hot potato should be tossed to the equivalent of a base-closing commission. In sum, Binkin gives us solid reasoning, uses primary sources, and presents useful scholarship—including the acknowledgment that Desert Storm didn't test national acceptance of female, minority, or reserve casualties, so that the real vote on these social issues is still out.

The book is unsettling, however. For a work which professes to address the next war, it's a trifle too politically correct. And it looks back, not forward. African-Americans and women were at the leading edge of forcing national diversity into the military. Skirmishes remain, but their campaigns are won. More current issues entail assimilating increasing numbers of Hispanics, Asians, gays, and physically handicapped—all to the end of securing the best possible people for a military hooked on high-quality personnel.

That's the major issue Binkin neglects: Quality! Nowhere does the book discuss competence-basing, yet that has been the single most important area of the military's move into the Information Age. The Army has been able to demand and get consistent performance to standard by defining performance (task, condition, and standard) and then evaluating fairly. Either you perform to standard and are rewarded (promoted) or you are out—whether black or white, male or female. Acceptance of competency-basing is essential to the increasing reliance on quality—what I have described elsewhere as "gold collar" officers and "white collar" NCOs. That's where the "people action" is in girding for Third Wave War—incidentally, another timely personnel issue not raised.

Nor does Binkin address the challenge of quantity. If there had been substantial casualties during the Gulf War (particularly Army), the remainder of the trained Army might have been consumed before a draft could supply replacements.

That's a timely issue in the Bottom Up Review—the need for personnel depth beyond the numbers directly committed to two major contingencies.

Lastly, Binkin's model of reserve forces seems out of date for the Information Age, when quality people may be as important as quality units. There is a useful and necessary symmetry among and between active (federal, national), National Guard (state, regional), and Army Reserve (federal, regional) which may be necessary and appropriate for landpower in a nation, state, democracy, and people occupying most of a continent. Perhaps units are National Guard, "gold collar" people are USAR? There are other equally valid approaches that should be assessed in pondering reserves for the future. None are discussed.

So, the book is a mixed bag in living up to its title. But I recommend it as a solid primer on the past.

D-Day June 6, 1944: The Climactic Battle of World War II. By Stephen E. Ambrose. New York: Simon & Schuster, 1994. 656 pages. $30.00. **Reviewed by Dr. Russell F. Weigley,** author of *Eisenhower's Lieutenants*.

The writing of military history has been chronically plagued by a tension between two conflicting purposes within it: the search for the truth about the past, and the search for lessons to be learned and applied for the improvement of armed forces and the more effective conduct of war. Civilian historians generally emphasize the former purpose. Professional soldiers writing military history tend naturally to emphasize the latter. They do so for good and obvious reasons, but nevertheless doing so creates a problem, in that looking for lessons generates a temptation to ignore such evidence as might be inconvenient for the lessons one is predisposed to find.

Stephen E. Ambrose's *D-Day June 6, 1944* exhibits a different tension within military history, and one less frequently remarked upon. The historian who chronicles the deeds of brave men and women who have exhibited the traditional military virtues—such as honor, self-sacrifice, stoicism—will, if his own heart is in the right place, inevitably admire and wish to celebrate the accomplishments of those of whom he writes, all the more readily at a time when the world at large seems to pay less and less regard to such virtues. Yet praising gallantry is not quite the mission of the historian. A monument is one thing, and a critical history is something else. Using a book of history to celebrate valor tends to compromise both the quest for the truth about the past *and* the critical quest for lessons to be learned.

Ambrose's history of D-Day is mainly a synthesis of personal accounts, concerned less with strategy, the operational art, and even tactics than with the experience of participating in the great invasion. It is based primarily on the oral histories and written memoirs of participants, especially the more than 1200 such personal accounts collected by the Eisenhower Center of the University of New Orleans, but also on similar accounts in other collections including the World War II Project of the US Army Military History Institute. Ambrose himself did much of the relevant interviewing and has come to know many of the D-Day participants, some of them well. On the whole he deeply admires them. He clearly intends his book not only as a comprehensive history but also as a memorial tribute to the men and women of D-Day. The result nevertheless is troublesome. His tributes to the gallantry of the

soldiers, sailors, airmen, and Resistance fighters keep getting in the way of history as a search either for truth or for lessons.

Ambrose values the military virtues as he has found them among the veterans of all nations that took part in D-Day, including the enemy, the Germans. But as an American he particularly bestows his respect upon the American participants, and a persistent theme within the commemorative tone of the book is to praise the United States Army of 1944 as qualitatively the best in the world at the time. Such praise certainly has merit in its offsetting of extravagant tendencies to make supermen of the Germans and to enthrone the pre-1945 German army as a military force of unparalleled effectiveness. The more this reviewer studies World War II, the more he agrees with Ambrose that by 1944 the American Army was the best. But if we are to keep our Army the best, we can better do so by acknowledging whatever flaws it has had, so they may be corrected, than by building literary monuments to how good the Army was 50 years ago.

The landings on Omaha Beach were, through much of D-Day, the most precarious. Surely at least part of the reason must have lain, beyond terrain problems and the skill and tenacity of the enemy, in the ways in which American training, doctrine, leadership, and preparation could better have anticipated the difficulties of the assault. If nothing else, something went wrong when intelligence failed to perceive the full presence and the implications of the deployment of the Germans' high-quality 352d Division at Omaha. Yet Ambrose gives us little of this kind of analysis; his account is all about the grit and guts and gallantry that in the end got the Americans free of the beach and moving inland.

With the Germans, Ambrose is more willing to offer critical judgments, and we are treated to some of the perceptiveness of which he is highly capable. His detailed coverage of D-Day itself through eyewitness accounts at all levels follows an only slightly less detailed portrayal of the planning and preparation on both sides. Here we do find some concern for strategy and operations, and here in particular he presents shrewd judgments on the debate among the Germans over the proper conduct of the defense against the allies' amphibious assault. Was it better, as *Generalfeldmarschall* Erwin Rommel, commanding Army Group B, contended, to concentrate German strength on and immediately behind the beaches, including the Panzer divisions? Rommel insisted that the Anglo-Americans could not be permitted to gain a beachhead at all, or else they would surely break out from it. Or was it better instead, as *Generalfeldmarschall* Karl Rudolf Gerd von Rundstedt, *Oberbefehlshaber West*, believed, to follow the more classical prescription for countering a blow whose exact location could not be foreseen, by holding back reserves, especially the Panzers, for commitment wherever the blow should fall?

It is easy to find Rommel persuasive, partly because of the weight of his reputation in the English-speaking world, partly because of the force of his argument that he had already experienced the effects of Anglo-American aerial supremacy on ground battle, while Rundstedt had not—and he therefore knew that the allies would almost completely interdict German military movement once the invasion had begun, so that a powerful counterattack delivered by reserves would be impossible. Ambrose, however, takes Rundstedt's side, on the cogent but sometimes neglected point that naval gunfire was considerably more devastating than even aerial bombardment. To have committed the German tanks to the immediate coastal area would have been to have them smashed by the ships' big guns. Any other method had to be preferable for the Germans

over sacrificing the Panzers to naval gunnery. Allowing for Rommel's argument about the difficulty of post-D-Day movement as well, Ambrose suggests that the best solution would have been a World War I-style defense in depth, with multiple defensive systems layered behind the beaches. Here is thought-provoking critical analysis.

On the other hand, the Normandy hedgerows gave the Germans a close approximation of a multi-tiered belt of fortifications anyway, but the Germans were still incapable of preventing the eventual breakout into the heart of France. Against the deep power of the Western Allies, their predicament was finally unresolvable. For all that, Ambrose sets the reader to speculating: if the Normandy stalemate of the first six weeks could have been prolonged through the whole summer or even beyond, if there had then been time to throw the Messerschmitt Me262 jet fighter into the air war in quantity. . . .

D-Day June 6, 1944 whets the appetite for more of the kind of critical analysis of command decisions that can stimulate such speculation. It is a book that every student of World War II ought to read. It is almost encyclopedically comprehensive in its recital of the events of the invasion day and of the preparation for Overlord. Yet it could have been more than it is. Understandable as is Stephen Ambrose's impulse to commemorate the veterans of D-Day by showering them with explicit praise, his purpose is somewhat off the mark for a historian. Sometimes the most effective and lasting memorials are not specifically intended as such. A great work of critical history can be a stronger tribute to the heroes of the past than a conventional monument, in stone or in prose.

To the Point: The United States Military Academy, 1802-1902. By George S. Pappas. Westport, Conn.: Praeger, 1993. 474 pages. $55.00. **Reviewed by Lieutenant General Dave R. Palmer, USA Ret.**, Superintendent of the United States Military Academy from 1986 to 1991 and author of *The River and the Rock.*

The United States Military Academy sprang straight from the vision of our country's Founding Fathers. In establishing this national institution, they sought to meet two of the most pressing imperatives of the new republic they had created. The Academy would provide the nation professional military leaders—George Washington and others saw this role as its primary reason for being—and it would produce leaders unshakably loyal to the Constitution. Thomas Jefferson, for one, had this latter concept foremost in mind when he signed the enabling legislation on 16 March 1802.

Was their vision fulfilled? Later leaders certainly seemed to think so. Not too many years after the Academy's founding, Andrew Jackson wrote, "I believe it the best school in the world." At the centennial celebration in 1902, Theodore Roosevelt surveyed the historical record and proclaimed: "We had the right to expect that West Point would do well, we could not have expected that she would have done so well as she has. . . . During this century no other educational institution in the land contributed so many names as West Point to the honor roll of the nation's greatest citizens."

George Pappas records that rich history of those first one hundred years—and, as a splendid bonus, he includes the little known story of the original military school that preceded by many years the actual founding of the Military Academy itself. In telling the tale of West Point in the 19th century, he is treading where many have already ventured and have come up short. But Pappas succeeds for two principal

reasons. First, he did the digging necessary to uncover archival materials overlooked or not available to earlier writers. Second, he puts the evolving events of a century into focus by looking through the eyes of the participants themselves—cadets, instructors, proponents, opponents, graduates, officials, and others. Their own vignettes and anecdotes and observations lend life and reality to the book's pages. History emerges from the people who made it.

Don't be misled by the seeming simplicity of the subject. To consider this book as a mere recounting of the growth of West Point in its first century would be to seriously underestimate the complexity of the topic. As General Edward C. Meyer insightfully states in a foreword, the Military Academy "is an institution that had a marked influence on the development of a nation, the birth of an army, and the birth of a professional officer corps." While the story line follows the evolution of West Point through the decades from 1802 to 1902, it also mirrors the parallel development of the United States and its Army. It could not be otherwise—the Military Academy exists only to serve the nation, to help provide for the common defense and insure domestic tranquility. As the country matured and changed over that hundred years, so did its Academy. It kept pace with the needs of the nation. In that synchronization resides much of the reason for West Point's sustained record of success. Pappas's narrative underscores that fact.

At an entirely different level, readers will find fascinating the breadth and depth of detail woven into the story. The evolution of the campus, the rise and resilience of hazing, the birth and death of traditions, the travail of the first black cadets, the importance of honor, the advent of competitive athletics, the scope of military training, the origins of uniforms, the changing curriculum, and so much more. As a corollary, Pappas demolishes several persistent myths which had assumed the stuff of legend. It is necessary to tell what is so; it is also important to debunk what is not so. He does both.

At still another level, the book reveals 19th-century West Point to have been a solid foundation for the 20th-century institution. The modern Academy, as it nears its bicentennial, is undeniably the direct descendent of the older one Pappas describes. There are differences, of course, and some of them are dramatic. (For that story, we can only await *More To The Point*, in progress now.) But the threads of continuity are remarkably evident and enduring.

For example, consider the Academy's motto, made world-famous by the contributions of graduates in the 20th century. A motto did not exist until the very last part of West Point's first hundred years. As the centennial celebration approached, officials decided to adopt one. A painstaking search of all the records compiled since 1802 highlighted three central words. Spoken and written over and over from the Academy's birth on, those three stuck out above all others: Duty, Honor, Country. There had been a motto all along, the searchers discovered, it had just been unwritten.

Similarly, the Academy's purpose statement, not formally recorded until recent years, would have applied as fully in 1802 or 1902 as it does now, or as it surely will in 2002: "To provide the nation with leaders of character who serve the common defense." Those 13 words undergird all that Pappas has written about in this book—and all he will tell in the sequel. The purpose and the motto bridge the centuries. The abiding values inherent in them are the very essence of the Military Academy, then and now.

I highly recommend *To The Point*. And not only for graduates of the Academy. Just as West Point itself belongs to all Americans, its story is for all of us, too. The vision of the Founding Fathers has indeed been fulfilled, and this book compellingly describes the first half of how that was done. Stay tuned for the second part.

Giap: The Victor in Vietnam. By Peter Macdonald. New York: Norton, 1993. 368 pages. $25.00. **Reviewed by Douglas Pike**, Director of Indochina Studies, University of California, Berkeley.

This work is intended as a full-scale biography of that legendary victor from Dien Bien Phu and the Viet Minh War, Hanoi's architect of the Vietnam War, the "snow-capped volcano," General Vo Nguyen Giap.

By and large it succeeds. It is a workmanlike biography, employing the more-or-less-standard methodology used to trace the lives and evaluate the performances of the world's top military commanders. The author, Peter Macdonald, is career military, born in Peru of Scottish parents, conscripted into the British army in 1946, and eventually retiring as a brigadier. He has authored a half dozen other works, most of them fiction. It appears he was never in combat, nor did he ever serve in Asia, both significant considerations in evaluating his appraisal of Giap.

Gestation of his work, the dust jacket tells us, was a somewhat casual invitation to visit Vietnam and interview General Giap. Presumably Hanoi hosts had in mind the study of Giap by a relatively neutral foreign fellow general officer. The author subsequently interviewed US General William Westmoreland, French General Marcelle Bigeard, some of Giap's subordinates, and others. These conversations, more than an examination of the literature of the field, become the work. Macdonald sticks close to Giap and what people tell him about Giap; hence, this is more an interview book than a biographical analysis.

It becomes apparent in reading the work that Macdonald had little to do with Vietnam over the years. Throughout, one has the feeling that Macdonald is not entirely comfortable with the task he has set for himself. He is, after all, writing about an enigmatic figure who for decades was involved in a complex, even esoteric, kind of warfare. Unfamiliarity is further indicated by the book being peppered with small errors in names, dates, Vietnamese language usage, and other details.

The questions, then, are these: What was the exact role of General Giap in Vietnam's many years of warfare? What was his achievement? What kudos does he deserve? What blame must he shoulder? And what of the relative contribution of others—Truong Chinh, General Nguyen Chi Thanh, Ho Chi Minh himself? About these questions we cannot even say the matter is still being debated—it has yet to be truly addressed. At this stage the best we can offer are a few generalities.

First, and McDonald stresses the point, Giap was "brilliant at logistics." Indeed, moving troops rapidly was one of Giap's unique abilities, made possible by his careful stockpiling of arms, ammunition, food, and medical supplies along the route, often involving unbelievable effort. To prepare for the four-day Vinh Yen battle (January 1951), he moved 5000 tons of rice, ammunition, and other supplies to the battlefield area, requiring two million man-days of labor.

The late Bernard Fall called Giap a logistics "genius," able to move men and material around a battlefield far faster than anyone had the right to expect. Such

infinite, meticulous, endless attention to mundane logistical matters is the point in warfare where spirit touches administration.

The second judgment has to do with Giap's use of deception in warfare. Macdonald alludes to Giap's mastery here, but does not single it out for the attention it deserves. Some South Vietnamese military men who fought Giap consider deception to be the only noteworthy aspect of his strategic thinking.

Most casual periodical writing on Giap over the years has focused on his personality. It is said he has an iron (some say fanatical) determination to succeed; he is extremely resilient; he pays meticulous attention to detail; he is evasive but more as a cultural than personality trait; he is intelligent but not intellectual; he is patient on large matters, impatient on small ones; he is ruthless, often dogmatic, sometimes arrogant. Macdonald found Giap modest but impatient, friendly but Olympian, evasive ("typically Vietnamese," he adds); moody, but with charm and a sense of humor; and prone to volubility.

In taking his measure of Giap the general, Macdonald is guarded to the point of indeterminacy. One senses he is not sure of himself here and does not want to make any mistakes. Hence, in Chapter 26, "Giap: An Assessment," one finds no small amount of escape-and-evasion writing. The author begins by listing four reasons—all cultural—why coming to judgment is difficult. Then he lists Giap's lifetime batting average: four major battles/campaigns/endeavors won; four lost. As I read Macdonald he says Giap as a strategist was at least average and perhaps better than average; as a tactician he was first rate, "a master of guerrilla war" (and guerrilla war is mostly a matter of tactics); and as a logistician, "brilliant." He seems to conclude that while Giap had all the qualities needed for generalship, what made the difference was fortuity. While a Western reader might not find this much of a contribution to our understanding—Giap's success was due to chance, good fortune, luck—in Vietnam it would be quite adequate. Giap succeeded (as did Ho Chi Minh) because he had an abundant quality of that mysterious thing called *joss*. Perhaps this will also be history's judgment.

Islam and the West. By Bernard Lewis. New York: Oxford Univ. Press, 1993. 217 pages. $25.00. **Reviewed by Colonel Norvell B. DeAtkine, USA Ret.,** Director of Middle East Studies at the John F. Kennedy Special Warfare Center and School, Fort Bragg, N.C.

Reviewing a book by Bernard Lewis, one of the preeminent scholars of the Middle East for more than 30 years, is not a task to be approached lightly. While not in favor among the academic left or a group of Western professors regarded by some as "professional Palestinians," Bernard Lewis was nevertheless highly respected by most of my professors at the American University of Beirut in the late 1960s—both American and Arab. It was an era when the campus abounded with Nasserites, Ba'athists, Phalangists, and a profusion of various left-wing Palestinian groups, and many of the younger scholars of the Middle East had relegated Islam to anthropological interest. Dr. Lewis opposed the prevailing wisdom in his writings of that period, presciently noting the enduring and powerful appeal of Islam. In *Islam and the West*, his unmatched breadth and depth of knowledge has again provided a book of inestimable value to scholars as well as policymakers.

The book itself is a compendium of lectures and articles by Dr. Lewis dating back to 1976. Most of them have presumably not been available to the American general public. As in any book composed of disparate essays and speeches over a 16-year span, there is some discontinuity, but in the aggregate the book provides a coherent beginning for understanding Islam and its political implications.

Professor Lewis divides the 11 chapters into three sections—Encounters, Perceptions, and Responses. The three sections refer to the interaction of the West—defined as Europe and America—and the Islamic world, specifically the Middle East. The Encounters section provides a historical survey of the interaction of the Muslim and European civilizations and discusses the status of the Muslim community in Europe. As Dr. Lewis explores this seldom-addressed aspect of Islam, he notes the ambiguity of European Muslims in relation to the demands of Islamic law. This relationship creates special problems not only for the Muslims but, more important, for the host nation. As Dr. Lewis writes, "Muslims in the Western World find themselves in a situation in which they are different not just because they profess a different faith . . . but also because they hold a radically different conception of what religion means, demands, and defines."

There are now more Muslims than Episcopalians in the United States, and Muslims represent a significant minority in Europe olicymakers must therefore begin to view Islam as not simply another religion, ut as a political system which creates new pressures on democratic infrastructure already creaking under the demands of various ethnic, linguistic, and racial groups.

In the Perceptions section, Dr. Lewis shows how East and West have viewed one another from the time of their initial encounters until the present. A large portion of this section consists of a spirited defense of the politically incorrect term "orientalism." I would have preferred that this important subject be addressed outside this book—perhaps as a refutation of Edward Said's *Orientalism*. I agree with Dr. Lewis on the inestimable value of the Orientalists' contribution to our knowledge of the Middle East. Without them, instead of knowing very little about the Middle East, we would know nothing. Recent political science writings about the Middle East tend to be cliché-ridden, filled with academic jargon and language so convoluted as to be indecipherable. Dr. Lewis's passionate reply to his critics seems out of harmony with the intent and scholarly tone of his other pieces. More important, Dr. Lewis gives his critics recognition they do not deserve.

The essence of this book is in the final section, Responses. This section provides much of the knowledge necessary to evaluate the most trendy Middle Eastern issue: is Islamic fundamentalism a threat or not?

While not addressing that issue directly, Dr. Lewis sheds a great deal of light on what we need to know in order to answer the question. He begins with the fact that Islam is much more than a religious faith; it is also a culture, a political system, and a civilization. The Islamic community, however fragmented and diverse it may be, is susceptible to a powerful Islamic emotional appeal, which can be harnessed by skillful manipulators to promote their own interests. Contrary to what some of Lewis's critics say, he is not alarmist. He does not paint a picture of Muslim hordes overrunning the European continent. He recognizes that the deep fault lines within Islam—ethnic, linguistic, national—presently limit its power on the international scene. He does

make clear, however, that Western analysts and scholars who view Islam through an elitist secular prism are seriously underestimating its potential political power.

In this book, as in all of his writings, Bernard Lewis has consistently praised the great moral precepts and ethical wisdom contained within the Islamic religion. The point that Dr. Lewis keeps making, and which is repeatedly ignored by his detractors, is that politicized Islam is an ideology; citing the deficiencies of that ideology is no more derogatory to Muslims than pointing out the deficiencies of a democracy to American Christians. Dr. Lewis's efforts to identify problems or obstacles to mutual respect between Judeo-Christianity and Islam are made more difficult by the traditional view of the inseparability of Islam and politics.

Finally and importantly, when Dr. Lewis describes the encounters and perceptions of East and West, he makes a point that many others have made: the traditional Islamic feeling of superiority and "self-sufficiency" has closed off any real effort on the part of Islamic scholars to understand the foundations of Western society.

Unlike some other writers on the Islamic "threat," Dr. Lewis offers no solutions. He advances no panaceas for accommodating or confronting militant Islam. He does urge serious study of Islam and a cautious approach to Islamic fundamentalism. The issue for strategists and policymakers remains "How to address militant Islamic fundamentalism?" To the chagrin of Americans who seem to believe that for every problem there must be a solution, Dr. Lewis could be saying that none exists. In their well-meaning efforts to separate the quietly devout, nonpoliticized Muslims from the small minority of bomb throwers, too many scholars, when describing Islam to their Western readers, tend to ignore the unresolved issues which would make a marriage of a pluralistic democracy and fundamentalist Islam a union of short duration. The United States is in no position to prescribe moral solutions to anyone; neither do we need to accept institutionalized discrimination as a facet of cultural relativism.

Islam and the West, while elegantly written, is not an easy book to digest. Nor does it leave one with a comfortable feeling—but as my parish priest says, if you leave the church feeling comfortable, you haven't been listening.

The Cuban Missile Crisis Revisited. Edited by James A. Nathan. New York: St. Martin's Press, 1992. 302 pages. $39.95. **Reviewed by Dan Caldwell,** Professor of Political Science at Pepperdine University and author of *The Dynamics of Domestic Politics and Arms Control: The SALT II Treaty Ratification Debate.*

More ink (and, fortunately, less blood) were spilled over the Cuban missile confrontation than any other major crisis in post-World War II American-Soviet relations. Why, the reader might legitimately ask, is there need for yet another book concerning this particular crisis?

The late eminent French historian, Marc Bloch, wrote: "Our sense of direction, and our interpretation of the past, are subject to constant modification and evolution as we proceed." This observation clearly applies to the historiography of the Cuban missile crisis.

In the years following the crisis and the assassination of John Kennedy, many of the late President's advisors—including Robert (his brother), Theodore

Sorensen (his closest advisor), and Arthur Schlesinger, Jr. (his in-house historian)—wrote their accounts of what had happened in October 1962. These first-person narratives were supplemented by a number of secondary accounts, such as Elie Abel's popular book, based on interviews (and leaks) from the principals.

Within several years of the crisis, the "constant modification and evolution" to which Marc Bloch alluded in the above quotation, began. Journalists I. F. Stone and Ronald Steel raised a number of questions concerning what had by that time become the accepted view of the Cuban missile crisis; namely, that it was a paragon of crisis management and President Kennedy's "finest hour." Scholars such as Barton Bernstein and James Nathan added to the revisionist critique of the traditional view.

Graham Allison established a new approach to the study of public policy based on the ways in which "bureaucratic politics" affected the outcomes of the missile crisis. Foreign policy analysts have pointed out that Presidents have generally had greater independence in making policy during crises. Therefore, on the surface, the missile crisis would not be a good case to select to study the role of bureaucratic politics. One of the principal reasons that Allison chose this case was precisely because of the availability of large quantities of information.

In the years since the Cuban missile crisis, the information concerning the crisis has grown enormously in quantity and spectacularly in quality. Thousands of documents have now been declassified by the National Archives and as a result of various Freedom of Information requests; former participants in the crisis have written their accounts; and the principal Soviet and American decisionmakers have met at three separate conferences to discuss their recollections.

The new information that has come to light during the past several years has shed new light on the crisis. For example, it is now clear that President Kennedy authorized his brother to arrange an explicit (but secret) trade of the US missiles in Italy and Turkey for the Soviet missiles in Cuba. In addition, it is now evident that American-Soviet stability during the crisis was very fragile, raising the question of whether nuclear crises can be safely managed. A number of the frightening incidents that have recently come to light are mentioned in this book; others are described excellently by Raymond Garthoff in his book *Reflections on the Cuban Missile Crisis* (Brookings, revised edition, 1989).

Editor James Nathan has assembled an able group of contributors in this volume. Each of the articles takes advantage of newly available information. Particularly noteworthy are the chapters by Barton Bernstein, Richard Ned Lebow, and James G. Hershberg. As a group, the contributors tend toward the "revisionist" end of the spectrum, but "revisionism" (in a nonideological sense) is, as Marc Bloch noted, what history is about.

Scenes from an Unfinished War: Low-Intensity Conflict in Korea, 1966-1969. Leavenworth Papers Number 19. By Major Daniel P. Bolger. Ft. Leavenworth, Kans.: Combat Studies Institute, 1991. 163 pages. **Reviewed by Bevin Alexander, author of *Korea: The First War We Lost* and *How Great Generals Win*.**

In 1966, with the United States distracted by the Vietnam War, North Korea's leader Kim Il Sung embarked on a campaign to undermine the "puppet

government" of South Korea, drive out American "colonial rulers," and unite the peninsula under communist rule. Kim had failed in this identical aim in the Korean War of 1950-53. Now he hoped to achieve victory by attacks against American forces and Republic of Korea (ROK) leaders and by instigating a rebellion among the people of South Korea. These measures, he hoped, would cause such a strain on the United States that it would withdraw, forcing the ROK government of General Park Chung Hee to disintegrate. This volume is a study of how the United States and South Korea—by using limited means and avoiding a stand-up war—defeated Kim Il Sung's second effort to conquer South Korea.

Kim did not challenge American military power directly, but, as Bolger details, hoped to conquer the south by ambushing American and ROK forces along the demilitarized zone (DMZ), assassinating General Park, and sending infiltrators into the South Korean interior to stir the people into revolt. This strategy resembled what the Viet Cong were attempting to do in South Vietnam. The United States had no clear doctrine for fighting such an unconventional war against insurgents and infiltrators. In Vietnam it tried to use conventional methods. General Westmoreland summed up the concept in a single word: firepower. Firepower ultimately failed in Vietnam. But in Korea, where the United States wanted to avoid a major conflict, it was the option of last resort. As Bolger points out, the commander there, General Charles H. Bonesteel III, improvised, conducting a low-intensity conflict that resolutely kept the United States from escalating incidents into a heavy response and drew in the ROKs as the major actors in running down and eliminating infiltrators.

Bonesteel strengthened the DMZ, setting up a ten-foot chainlink fence and other defenses to discourage infiltrators. His methods did not end clandestine breakthroughs, but they did reduce them.

He was less successful in shielding South Korea's sea approaches. Throughout the conflict, North Korean agitation teams were able to land on both coasts and move inland. The most spectacular raid was by a 31-man North Korean team with the mission of assassinating ROK President Park in his Seoul residence. This team went straight through the 2d Infantry Division's DMZ sector without detection on 17 January 1968. The scheme might have succeeded, except that four South Korean woodcutters came upon the team hiding on a hillside. Instead of killing them, the North Koreans tried to convince the woodcutters that they were "oppressed" and also hinted at the team's mission. When released, the woodcutters alerted ROK police, who halted the North Koreans within 800 yards of Park's house on 20 January. In the ensuing melee and manhunt, the ROKs killed or captured all but two of the commandos.

The greatest North Korean coup was the capture, off the east coast, of the US Navy's spy ship *Pueblo* and 82 sailors on 23 January 1968. President Lyndon Johnson and other Americans saw the *Pueblo* seizure, the Seoul commando raid, and the simultaneous Viet Cong Tet offensive in Vietnam as part of a communist master plot. Although Bonesteel initially was so angered he called for a nuclear strike against North Korea, he soon determined there was no connection between the three events and resumed his measured responses against North Korean challenges.

Bolger points out that the most crucial step in winning the low-intensity conflict occurred in February 1968, when President Park approved a people's militia, or local units of peasants and others, who could counter North Korean efforts to take over rural areas, especially difficult regions like the eastern Taebaek mountains and the Chiri

massif in southwestern Korea. The effectiveness of these militias working with ROK army and police forces was proved when practically all of a 120-man North Korean team landing on the east coast in October 1968 was destroyed within a few days.

Park had originally refused to permit militias for fear they would form rallying points against his government. But the South Korean people proved themselves to be loyal to the ROK government, despite its dictatorial ways. In large part the reason was because the peasants had been given title to the land they farmed and no longer felt oppressed. In addition, American-aided economic growth was taking off in Korea, showing that more prosperous times lay ahead: Therefore the promises of North Korean infiltrators that things would be better under Communism fell on deaf ears.

Bolger's study is a fine analysis of how Bonesteel and the ROK leadership countered the specific challenges posed by the North Korean effort to undermine South Korea—and did not succumb to an urge to escalate the North Korean provocations into a full-scale war. His book gives us food for thought for the future. Both the Korean War and the low-intensity conflict that followed arose out of specific conditions peculiar to that sadly divided peninsula. When Americans are drawn into conflicts in other lands, we are likely to find similar particular, exceptional conditions that have caused disputes and disunity. As examples, the disorder and hunger in Somalia and the devastating civil wars in Bosnia and the Sudan have causes uniquely rooted in those countries. We must respond to individual problems in a manner that solves them with the least expenditure of force and effort, *not* search for conspiracy on the one hand or a universal remedy on the other.

The French Foreign Legion: A Complete History of the Legendary Fighting Force. By Douglas Porch. New York: Harper Perennial, 1992. 728 pages. $16.00 (paper). **Reviewed by William T. Dean, III,** Coordinator of Peace, War, and Diplomacy Studies, Norwich University, Northfield, Vt.

Dozens of books have been written on the famous or infamous fighting force, the Foreign Legion, and the reader may muse: Do we need another book on this seemingly well-studied subject? The problem is that none of the previous histories of the Legion have met the criteria of scholarly history. Virtually all of the pre-Porch books on the Foreign Legion consist of memoirs damning the Legion, apologias, semi-official propaganda, or superficial surveys using a small selection of secondary sources. Douglas Porch is the first professional historian to write a scholarly history of the Foreign Legion.

Porch accurately argues in the preface: "This study does not pretend to be an exhaustive history of the Legion—that would be quite impossible!" Nonetheless, the author does give a fairly detailed summary of the Legion's major campaigns, and in some ways this book is also a good introductory survey of French colonial warfare from 1830 to 1962. Porch's book covers obscure and famous actions from Camerone to the debacle of Madagascar, in the last generation of the 19th century. The author describes the period between 1900 and World War I as the "high renaissance" of the Foreign Legion. "What is important to note here," Porch argues, "is that it is in this pre-1914 period that the Legion's self-image as a bunch of hardened but sentimental

outcasts became cast in concrete, a self-image that it would battle to preserve in the changing conditions of the 20th century."

In the 20th century, the seemingly outdated Legion did find its familiar *raison d'être* in fighting in the Rif War in the mid-1920s in Morocco and the invention of tradition by General Paul Rollet. It may surprise the reader to learn that the *kepi blanc* and the institution of Camerone Day as the great feast day were instituted during the interwar era. "The interwar years were decisive ones for the Legion, not the least because it pulled off a triumph of public relations in the process of confirming once again the unique mercenary character of the corps." To paraphrase Porch, the Legion had become an intentionally anachronistic institution.

The last great campaign of the Legion that Porch discusses in detail is the Algerian conflict, 1954-62. In the Algerian War, the Legion's old-fashioned approach, fighting a 20th-century revolutionary war with 19th-century colonial war methods, caught up with them. The author shows that the highly publicized use of torture by Foreign Legion paratroopers during the battle of Algiers helped discredit the French cause in Algeria.

Porch does not discuss in any great detail the actions of the Legion since 1962 in places like Africa or Lebanon but indicates that the Legion has a bright future. "The Legion has survived in a form and with a mentality long extinct in the armies of other nations. As dinosaurs go, however, it is a lively and colorful one." The events of the last two years seem to confirm his argument with the use of the Legion in Desert Storm and in Somalia.

This book explores "why men volunteered for the Legion, what psychic income they drew upon being initiated into its peculiar mysteries and esprit, and the stages of development and levels of growth in the career of a legionnaire." The author believes that "the Legion offers a mirror image of its society, a comment upon Europe's norms and values." He argues that the Legion is outmoded because it is a mercenary force in an age of mass armies. Porch does demythologize the Legion and shows that this institution was neither heroic nor a collection of blackguards, brigands, and thugs. One argument that Porch fails to resolve satisfactorily is the matter of heterogeneity versus homogeneity. The author argues that this heterogeneous force was able to function because of competition between the nationalities and the development of sacred rituals. Porch says "the heterogeneity of the Legion was more apparent than real, for legionnaires shared a common background and attitudes, even certain psychological traits." On the other hand, he says desertion is endemic to the Legion and characteristic of troops who lack a sense of loyalty.

Porch explodes the myth of excessive brutality in the Legion, especially by the NCOs. He says that "there is no evidence that authority was exercised any more harshly in the Legion than in a French line regiment, or in a German or Russian one for that matter." It would have been helpful to have included a chapter examining the Legion in a broader and comparative context of history. In a chapter, Porch could have compared the social composition of rank and file, command, control, logistics, and combat effectiveness of the Legion with French line units and other elite units from other European armies. One could argue that this would make an already long book longer, but this could be remedied by taking out some of the anecdotes that are entertaining rather than crucial to the text.

In terms of documentation, Douglas Porch's *The French Foreign Legion* is clearly the most thoroughly researched book ever written on the Foreign Legion. He draws heavily from the French War Archives at Vincennes, particularly in his chapters dealing with World War II and the 1946-54 French Indochina conflict. What is especially new and important about this work is that Porch was able to use the Foreign Legion archives (a first for any author on this subject). Chapters 28 and 29 concerning Algeria are the weakest, but that is because of the recent and highly controversial nature of the Algerian conflict; little archival material is available yet. The bibliography of memoirs and scholarly secondary sources is quite impressive.

Porch's *The French Foreign Legion* is a blend of the old operational military history and the new war-and-society approach to history. This book is scholarly history written in a highly entertaining style. I believe that officers of the US armed forces, particularly the Army, would profit from reading this book. There are lessons that the American Army or Marines could draw from the Legion's experience in insurgencies. After all, it appears that at the end of the 20th century Americans may have to contend with numerous *petites guerres* (small wars). It is prudent to look back at previous examples of colonial conflict in Africa and Asia. Douglas Porch's *The French Foreign Legion* is a good introduction to the study of small wars.

Beacons in the Night: With the OSS and Tito's Partisans in Wartime Yugoslavia. By Franklin Lindsay. Stanford, Calif.: Stanford University Press, 1993. 383 pages. $29.95. **Reviewed by Dr. Michael Roskin,** visiting professor at the US Army War College, 1991-94.

In late 1943, young US Army engineering officer Franklin Lindsay, who had been supervising rail transport through Iran to the Soviet Union, found himself bored and in Cairo. So he volunteered to parachute into German-held territory to blow up rail lines running through the northernmost part of Yugoslavia. This memoir of that experience provides historical insights, political cautions, operational tips, and a good read.

Operations in the Balkans, as in Europe generally during the war, were mostly British-run. The British had been fighting the Germans since 1939 and had a liaison team headed by Brigadier Fitzroy Maclean (Force 399) with Tito. The American Office of Strategic Services basically just attached itself to the British Special Operations Executive, which had all the experience. At British camps in Palestine, Lindsay learned to parachute in one week and then learned weapons, explosives, and ciphers in another week. No one could accuse them of overtraining. Lindsay was a good candidate for the job; as an engineering graduate (Stanford '38), he knew where to place explosive charges for maximum effect. Lindsay was under Maclean's orders.

Flying out of Brindisi, near the heel of the Italian boot, Major Lindsay was dropped into a prearranged site in Slovenia at midnight, 14 May 1944, and was immediately picked up, as planned, by Partizans of Marshal Tito operating in what they called their Fourth Zone. Lindsay soon marched inside the German Reich; Hitler had annexed the northern part of Slovenia—an area of rugged mountains which looks exactly like Austria and had long been part of the Habsburg empire—just after he conquered Yugoslavia in 1941.

Both politically and physically, blowing up rail lines is no simple thing. Politically, Lindsay had to get the Partizans on his side. The top officers were all committed communists and suspicious of the "imperialist" West. Friendly cultivation won some over, but the main technique seems to have been bribing them by airdropping arms and medical supplies.

It started dawning on Lindsay that in terms of political goals, the Partizans and the American and British officers were rather far apart. The Americans and British wanted to disable rail lines running from the Balkans into the Reich; this was especially important as (unknown to Lindsay) D-day approached. The Partizans really could not have cared less. Their goal was to hang on with the intent of establishing themselves as the premier power in Yugoslavia the day after the war ended. To this end, they needed arms and Western recognition, and so could sometimes be persuaded to blow up train tracks. Many of their enemies were domestic, namely the Serbian-monarchist Chetniks, and Tito's Partizans were intent on saving their weapons for a showdown at the end of the war. War, after all, is political.

Physically, Lindsay explains why it's difficult to inflict damage on a rail line that the enemy cannot fix in a few hours or days. Now, if you bring down a bridge pillar, that will have a lasting effect, but that takes a great deal of plastic explosive. After a while, the Germans got annoyed at the threats to "their" rail system and launched a major offensive in Stajerska (what we call Styria, and the Germans and Austrians call Steiermark) in late 1944 that effectively crushed Partizan activity in the area.

Conditions were hard. Partizans could eat and sleep in territory they had liberated, but at any moment the Germans might force them into the high mountains. The Germans dealt ruthlessly with peasants suspected of helping the Partizans; mass executions and the burning of whole villages were commonplace reprisals.

The frustrations of communication seemed to occupy much of Lindsay's concerns. OSS and SOE headquarters in Italy appeared deaf to his desperate calls for another radio, weapons, and medical supplies. Instead, headquarters apparently preferred to drop standard packages of sometimes unneeded materials. If he could have, Lindsay would have reached through the air waves and strangled them.

As the war neared its end, the Partizans grew chilly and distant toward the British and Americans. Tito was preparing to fling Yugoslavia firmly into Stalin's camp. The seeds of the 1948 Tito-Stalin split had already been planted during the war, argues Lindsay, in Tito's disobedience of Stalin's orders to place defeat of Germany ahead of communizing Yugoslavia. Serving later with the CIA, Lindsay fully approved of the US arms aid to Tito in 1948 (at first secret). Without it, Lindsay suspects, Stalin would have invaded Yugoslavia soon after Tito's rejection of Soviet control of the country. The US action in Korea in 1950 finally persuaded Stalin not to try it, Lindsay thinks.

As to the present situation in ex-Yugoslavia, Lindsay offers few insights. The hatred between nationalities that the Germans deliberately fanned during the war was supposed to have been overcome by the Partizans, who were genuinely above the nationalities quarrels. Tito, alas, did not build lastingly. Lindsay does provide some close-up glimpses of Tito as extraordinarily vain, more devoted to gold-braided uniforms, fine horses, and personal mansions than to the long-term good of Yugoslavia.

Lindsay closes on the sad note that such brave people as those he knew in Yugoslavia must inflict more tragedy on themselves.

The Strategic Bombing of Germany, 1940-1945. By Alan J. Levine. Westport, Conn.: Praeger, 1992. 235 pages. $45.00. **Reviewed by Lieutenant Colonel Mark Clodfelter, USAF, Professor of Airpower History, Air University, Maxwell Air Force Base, Alabama.**

The World War II air offensive against Germany claimed almost 160,000 British and American fliers while killing between 300,000 and 600,000 German civilians. Fifty years later, the magnitude of that air war remains daunting—as are the prospects for arriving at a consensus over its effectiveness. Historian Alan J. Levine offers his own interpretation in a work that ably chronicles both the British and American experience against the backdrop of the German response. To Levine, "panacea" targets did exist, the Anglo-Americans found and destroyed *some* of them, and the bombing made a significant contribution to Allied victory, although that contribution could have occurred sooner than it did.

Levine bases his account on secondary sources, which he supplements with memoirs and US Strategic Bombing Survey reports. His synthesis is first-rate, and his pithy observations invigorate a story that may be familiar to some readers. For instance, he contends that part of the reason for inaccurate British bombing in the early part of their night offensive was that navigators were responsible for dropping bombs; specialized bombardiers did not appear in Bomber Command aircrews until March 1942. He also minimizes the role of the P-51B Mustang in establishing air superiority over Europe. "The Mustang did not, by itself . . . save the Eighth Air Force from defeat," he argues—P-47s composed the vast majority of fighter escorts during the critical air battles in the spring of 1944. Levine further notes that contrary to popular opinion, the Americans were not immune from aiming at German civilians, and that the British conducted more and more precision attacks against factories as the war progressed.

Still, Americans aimed most of their bombs at "precision" targets such as oil refineries or railroad yards, and the bulk of the British ordnance fell in area assaults against population centers. Levine blames Sir Arthur Harris, the Commander of RAF Bomber Command after February 1942, for the continued emphasis on city bombing. He asserts that "the British were increasingly committed to the vague hope of breaking enemy morale, without a clear idea of what would happen even if that were accomplished." Despite the development of sophisticated radar navigation systems, improved bombsights, and bombing tactics that permitted the RAF to conduct precision raids by the end of 1943, Harris remained steadfast in his emphasis on area attacks. His focus culminated in the February 1945 assault on Dresden, which "was yet another victim of an area-bombing policy that was three years old and at least a year out of date."

The Americans, meanwhile, persisted in daylight raids, ultimately focusing after D-Day on two target systems that hurt the Germans badly—oil and transportation. Attacks on both systems created synergistic effects: the assault on oil hampered the production of explosives, rubber, and artificial fertilizer, while the campaign against transportation limited the movement of coal, a vital source of electric power for most German factories. Harris begrudgingly shifted some of Bomber Command's strength to support the two campaigns, and the heavy bomb tonnages of the Lancasters paid dividends. Yet Levine maintains that the payoff could have occurred more rapidly

than it did had the Anglo-American bomber force concentrated on 18 Bergius hydrogenation processing plants—the key links in Germany's synthetic oil production—and on 18 bridges and viaducts in the Ruhr, which were the most important elements of transportation in an area essential to Germany's economic welfare. He also contends that synthetic rubber was perhaps the most significant target system in Germany's industrial web. The Germans possessed only four synthetic rubber plants; the Americans attacked only one of them, and it only once. Levine notes that determining the relative importance of targets—and reevaluating that importance following strikes—was a perennial problem for the Allies even with their advantage of Ultra communications intercepts.

Despite the inexact nature of targeting, the air offensive significantly degraded Germany's ability to fight. Besides the impact of the assaults on oil and transportation, Levine claims that the Combined Bomber Offensive tied down up to 1.5 million German soldiers and civilians, as well as enormous numbers of aircraft, guns, and other equipment. "The defensive effort forced on the Germans would have justified strategic bombing even if it never accomplished a more positive aim," he suggests. "It is hard to see how any other use of allied resources could have similarly affected the enemy in the same period." The offensive also secured daylight air superiority over Europe in the spring of 1944, which was a prerequisite for the Normandy invasion. In addition, it slowed down the development of new armaments, particularly the V-weapons and new aircraft.

Yet the Combined Bomber Offensive was not an unblemished success, and Levine points out what he considers to be its major failings: the Americans' reliance on unescorted bombers in daylight; their persistence in attacking ball-bearing and aircraft factories rather than more-lucrative targets such as synthetic rubber plants, lubricating oil refineries, and the German inland waterway system; and Harris's insistence on conducting area attacks. To a large extent, Levine's critique omits the "friction" that precluded an accurate assessment of the air campaign while that campaign transpired. Although he states that "it was want of correct analyses, not lack of information, that prevented the Allies from recognizing these targets," he implies that better analysis should have been forthcoming. But in war, as Clausewitz has observed, such seemingly simple tasks are often difficult.

Likewise, Levine's unbridled criticism of Harris seems a bit harsh. Missing from the narrative is the fact that the British—and the Americans—waged a total war for unconditional surrender. Given such a goal, the attempted aerial destruction of both German war-making capability and will conformed to the overarching political objective. Levine's assertion that "the effort expended against cities would have contributed more to victory—and have simplified postwar reconstruction—if it had instead been aimed at oil and transportation targets" ignores that "victory" equated to the obliteration of Nazi Germany and its way of life, and that any thoughts of "postwar reconstruction" were secondary to the aim of eradicating the Nazi state.

These concerns should not, however, detract from what is a superb account of the Combined Bomber Offensive. Rather, they simply emphasize that almost a half century after the world's longest sustained air campaign, controversy still exists regarding not only its conduct and effectiveness, but its intent as well. Such debate is unlikely to diminish during the next fifty years.

Review Essay

Strategic Reading on Latin America

RUSSELL W. RAMSEY

Latin America emerges in the 1990s as the post-Cold War world's humane region, exciting in the present and headed for a promising future. While some observers remain pessimistic, a parcel of well-written recent books brings the reader into the geostrategic vitality of Latin America on a positive note.

Pierre Etienne Dostert's *Latin America 1993* is the 27th edition of the Stryker-Post series on the world's regions. Dostert has unusual credentials. Judge, economist, Africa analyst, and master of four languages, he offers credible descriptions of the conflict zones, country by country, between economic privatization and booming democratization. Complementing this book topically and philosophically are the February and March 1993 issues of *Current History*, edited by William W. Finan, Jr. The February issue highlights Mexico and NAFTA from many viewpoints, and the March number has balanced contents on national security issues such as the Andean narcotics war, Panama's continuing instability, and Brazil's battle to privatize the economy. In 1994, only the March issue is dedicated to Latin America, and the analysis is more pessimistic.

Some analysts consider Latin America's present wave of privatization and democratization to be skin deep. There is historical precedent for this skepticism. Generals Simon Bolivar and Jose Francisco San Martin, principal military architects of the long independence campaigns against Spain in the 1820s, spoke ardently of a region searching for a constitutional order and free-market economies. San Martin said that his mission as soldier-liberator was "to protect the innocent oppressed, to help the unfortunate, to restore their rights to the inhabitants of this region, and to promote their happiness." [1820, quoted by Henry Brackenridge] In their later years, both San Martin and Bolivar lamented their betrayed dreams when *caudillos*—a genre of quasi-military, semi-feudal chieftains—emerged instead of democratically elected presidents.

At the dawn of the 20th century, positivist economic and social policies led by strongmen figures again seemed to derail the democratic impulse. US influence during the high age of maritime imperialism, 1898-1932, imparted both modernization and reinforcement for opportunistic strongmen in Central America and the Caribbean. Cold War era democratic impulses were sometimes artificially focused in Latin America into choices between leftist or anti-communist administrations as the USSR and Cuba challenged the West and threatened to install totalitarian systems. Economic policy in the era took its cues from Raul Prebisch's structuralism, a form of an inefficient economic nationalism that many US analysts wrongly thought to be a preference for socialism.

So it comes as no surprise that academic analysts are hesitant to proclaim deeply institutionalized democracy and effective free enterprise systems in Latin

America at Cold War's end. Two books sum up well the entire pattern of revolutionary challenges which occurred during the years of East-West conflict.

Professors Michale Radu and Vladimir Tismaneanu, both Romanian exiles to the United States, produced *Latin American Revolutionaries: Groups, Goals, Methods* in 1990, showing that much of Latin America's highly publicized romance with armed revolutionists during the Cold War was often an inauthentic carbon copy of European radicalism. Professor Timothy P. Wickham-Crowley, in his 1992 *Guerrillas and Revolution in Latin America: A Comparative Study of Insurgents and Regimes Since 1956*, explains with convincing methodology why it is that revolutionary movements succeeded only in Cuba and Nicaragua. Given that Latin America is the world's least militarized region, since 1830, measured as percent of gross national product expended on arms, soldiers per thousand citizens, and percentage of deaths in armed conflict, Professor Wickham-Crowley's thesis—that Latin America's other guerrilla forces never really had serious legitimacy—is consistent and credible.

Professor Abraham Lowenthal's *Partners in Conflict*, written at the height of the Contra-Sandinista war in Nicaragua and the government-FMLN war in El Salvador, was the first major political analysis on the region to identify the positive trends seen in the 1990s. One can see US policy initiatives that follow Lowenthal's blueprint to encourage political and economic integration and discourage externally imposed conflict. Excellent description of democratization in progress is found in Robert A. Pastor's *Whirlpool: U.S. Foreign Policy toward Latin America and the Caribbean*, 1992. Professor Pastor was a policy adviser to President Jimmy Carter and has remained at the Carter Center of Emory University in Atlanta, working with the peripatetic former President in the supervision of controversial elections in Latin America. Panama, Mexico, Puerto Rico, and the Organization of American States receive strong and unique treatment in this book which is both an analysis and a testimony.

While there is a spate of journal articles on specific economic issues within Latin America, there is not a single book which fully describes the complete economic process, the dimension which most analysts hold central to the survival of democratization. Professor John Williamson edited a collection of essays in 1990 published as *Latin American Adjustment: How Much Has Really Happened?*, a cautionary note to the fact that much privatization moves at snail's pace. More optimistic is Michael Novak's *This Hemisphere of Liberty*, also published in 1990. Novak is a Catholic theologian and economist who has found liberation theology to be of exaggerated importance. He shows the cultural shock of converting Indo-Hispanic Latin America to modern neo-liberal economics. Robert Devlin in his 1992 *Debt and Crisis in Latin America: The Supply Side of the Story* was responding to demands for an explanation of runaway public indebtedness in the region during the 1980s. His study calls into question the assumption that private banking policy helps the privatization process. There is a great need for a book on the family of regional treaties carried out under the principles of the General Agreement on Tariff and Trade (GATT): NAFTA, MERCOSUR (the South American cone), Andean Common Market, Central American Common Market, and CARICOM (the Caribbean). Many national security issues arise from these accords.

US scholars often have not discerned that the age of gunboat diplomacy, say from 1898 to 1932, and the Cold War, 1947 to 1989, were two different phenomena. A paradigm of convenience and doubtful intellectual merit was created according to which US Cold War policy in Latin America was a pretense for continuing the old policies of

gunboat diplomacy among conveniently authoritarian governments. Latin America was presented as a heavily militarized region that would overthrow most of its own governments if the United States had not strengthened indigenous militarism. The new crop of books on national security topics is more eclectic and covers more topics.

Professor G. Pope Atkins has edited *South America into the 1990s: Evolving International Relationships in a New Era*. This set of essays appeared in 1990 as General Augusto Pinochet was turning over authority to legally elected civilians in Chile, as Paraguay was moving toward its first democratic administration in decades, and as Argentina was modifying its constitution to limit the use of the army to defense against foreign invasion. It shows internal South American security dimensions previously not understood by the national security community. Professor Jonathan Hartlyn edited *The United States and Latin American Relations in the 1990s: Beyond the Inter-American System*, a 1993 volume available in both hard cover and paperback. Two essays on the economic systems rapidly evolving in the region are among the best available. The political essays focus on the outer ends of the political spectrum and neglect the emerging consensus majority in several countries. The essays on the role of the Latin American military forces reflect a change in regional events as well as in author viewpoints. These analysts in the 1980s saw Latin America's own armed forces as a greater threat to democracy than the Soviet-Cuban subversion machine. Today, they visualize limited roles for the air and naval forces but find little use for armies in the region. A shorter, more balanced book on national security issues in the region is *Evolving U.S. Strategy for Latin America and the Caribbean*, essays edited by Professor L. Erik Kjonnerod. Delicate questions about relative US and Latin American military responsibilities for the drug war are carefully stated. Sub-regional assessments address the visible security threats.

During the peak years of the Cold War, the United States dedicated about two percent of its security assistance money and four percent of its official arms sales and transfers to the entire Latin American region. Despite the ugly misbehavior of several uniformed regimes, military professionalism flourished in Latin America during the era, and a cordial network of useful relationships was forged between US and Latin American officers. Today, such questions as the future of US-Latin American military relations and roles revolve around the continuance of the roundtable, and the maintenance of a seat at the table for all the knights. This concept is institutionally expressed in the Inter-American Defense Board, the military advisory arm of the Organization of American States, and was explained well by Anthony Harrigan in his article "Inter-American Defense in the Seventies" (*Military Review*, April 1970). The Kjonnerod volume is singular among the recent wave of books on Latin American security topics by making anew the case for the roundtable. Some of it was visible in August 1993 when the US Army School of the Americas assembled academics, diplomats, and military officials at the 5th Latin American Conference to discuss the military role in the privatization and democratization process.

In the November 1993 issue of the *Hispanic American Historical Review* there appears an essay by Professor Benjamin Keen on the huge contribution made to the study of Latin America by the late Professor Lewis Hanke. The acknowledged dean of Latin American history in the United States, Hanke discovered the humane origins of Latin American society, presenting the struggle waged by the priest Bartolomeo de las Casas to obtain justice for the Indians under the Spanish Empire.

In the wake of las Casas' writings came the Black Legend, convenient to British Protestants who wanted a moral basis to wage mayhem against Spain's gold and silver fleets on the high seas. Black Legend proponents like Oliver Cromwell painted all Hispanic men-at-arms as savage cowards, morally incapable of soldierly behavior; neo-liberals and leftists in the US academic community reinvented this convenient paradigm during the Cold War, which is now over. One suspects that Professor Hanke would counsel an end to the vendetta.

The Western Hemisphere has the world's most cordial military-to-military relationships and the fewest wars. Nuclear arms are rejected in Latin America, as are chemical and biological weapons, the irresponsible use of mines, and the practice of coup d'etat. Latin American men-at-arms wear blue helmets for the United Nations in worldwide hot spots and uphold human rights at home and abroad. Yet the drug war, several Indian uprisings, Fidel Castro's eventual demise, the complete demilitarization of the Sandinistas and the Contras in Nicaragua, and the future of the Panama Canal all present national security questions. The books mentioned herein provide interesting and professionally solid reading.

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From the Archives

Edward Gibbon—Prophesying the End of War

Plato, that wisest of philosophers, warned us that "only the dead have seen the end of war." But mankind has understandably wanted to believe otherwise. During the 23 centuries since Plato wrote those words, a succession of would-be prophets has arisen who professed to discern, at last, an end to serious armed conflict between nations. One of the more illustrious was Edward Gibbon. In his great history, *The Decline and Fall of the Roman Empire* (1776-88), Gibbon took the view that the civilizing influence of 18th-century European culture must inevitably reach out to pacify barbarian hordes before they could mount an assault on Europe's enlightened shores:

> The savage nations of the globe are the common enemies of civilized society; and we may inquire, with anxious curiosity, whether Europe is still threatened with a repetition of those calamities which formerly oppressed the arms and institutions of Rome. . . . Cannon and fortifications now form an impregnable barrier against the Tartar horse; and Europe is secure from any future irruption of barbarians, since, before they can conquer, they must cease to be barbarous.[1]

In his proud infatuation with modern enlightenment and cultural advancement, Gibbon was led to conceive of European peace and security in terms of its immunity to barbarian incursions from without. Such hubris blinded him to the far more probable "barbarian" incursions from within. Conflict typified by the Napoleonic wars, the Franco-German War of 1870-71, and the World Wars—all conducted by nations in the vanguard of Western civilization—was totally alien to Gibbon's ecstatic vision of the future ("In war, the European forces are exercised by temperate and undecisive contests").

Yes, only the dead have seen the end of war, sayeth Plato. And to this we might add, only the dead have seen the end of those who futilely declare Plato mistaken.

NOTE

1. Edward Gibbon, *The History of the Decline and Fall of the Roman Empire*, ed. Wm. Smith (New York: Charles C. Bigelow, 1911), IV, 92, 96.

— Contributed by Colonel Lloyd J. Matthews, USA Ret.